

CHINA.

IMPERIAL MARITIME CUSTOMS.

II.—SPECIAL SERIES: No. 2.

MEDICAL REPORTS,

FOR THE HALF-YEAR ENDED 30TH SEPTEMBER 1882.

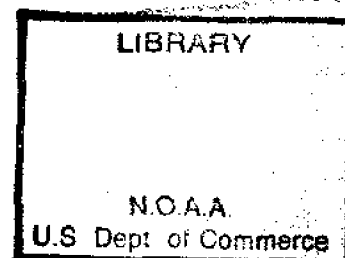
24th Issue.

PUBLISHED BY ORDER OF

The Inspector General of Customs.

SHANGHAI:
STATISTICAL DEPARTMENT
OF THE
INSPECTORATE GENERAL.

MDCCLXXXIII.



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National Oceanic and Atmospheric Administration

Environmental Data Rescue Program

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INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

INSPECTORATE GENERAL OF CUSTOMS,

PEKING, 31st December 1870.

SIR,

1.—It has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly report containing the result of his observations at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season.
Alteration in local conditions—such as drainage, &c.
Alteration in climatic conditions.

e.—Peculiar diseases; especially leprosy.

f.—Epidemics { Absence or presence.
Causes.
Course and treatment.
Fatality.

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking. I have committed to Dr. ALEX. JAMIESON, of Shanghai, the charge of arranging the Reports for publication, so that they may be made available in a convenient form.

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4.—

* * * * *

I am, &c.,

(signed)

ROBERT HART,

I. G.

THE COMMISSIONERS OF CUSTOMS,—*Newchwang, Ningpo,*
Tientsin, Foochow,
Chefoo, Tamsui,
Hankow, Takow,
Kiukiang, Amoy,
Chinkiang, Swatow, and
Shanghai, Canton.

1882.]

MEDICAL REPORTS, NO. 24.

SHANGHAI, 1st May 1883.

SIR,

IN accordance with the directions of your Despatch No. 6 A (Returns Series) of the 24th June 1871, I now forward to the Statistical Department of the Inspectorate General of Customs, the following documents:—

Report on the Health of Newchwang for the eighteen months ended 30th September 1882, pp. 1, 2.

Report on the Health of Chefoo, pp. 3-6;

Report on the Health of Wênchow, pp. 18-21; each of these referring to the year ended 30th September 1882.

Report on the Health of Ichang, pp. 7-11;

Report on the Health of Kiukiang, pp. 12-16;

Report on the Health of Ningpo, p. 17;

Report on the Health of Amoy, pp. 22-24;

Report on the Health of Canton, pp. 25, 26;

Report on the Health of Pakhoi, pp. 27-30;

Report on the Health of Shanghai, pp. 39-46; each of these referring to the half-year ended 30th September 1882.

Notes on an Epidemic Disease observed at Pakhoi in 1882, pp. 31-38.

I have the honour to be,

SIR,

Your obedient Servant,

R. ALEX. JAMIESON.

THE INSPECTOR GENERAL OF CUSTOMS,
PEKING.

The Contributors to this Volume are:—

J. WATSON, M.D., L.R.C.S.Ed	Newchwang.
J. G. BRERETON, L.R.C.P., L.R.C.S.I.	Chefoo.
A. HENRY, M.A., L.R.C.P.Ed, L.R.C.S.Ed	Ichang.
G. R. UNDERWOOD, M.B., CH.M.	Kiukiang.
W. A. HENDERSON, L.R.C.P.Ed, L.R.C.S.Ed	Ningpo.
D. J. MACGOWAN, M.D.	Wenchow.
B. S. RINGER, M.R.C.S., L.S.A.	Amoy.
J. F. WALES, B.A., M.D., CH.M.	Canton.
J. H. LOWRY, L.R.C.P.Ed, L.R.C.S.Ed	Pakhoi.
R. A. JAMIESON, M.A., M.D., M.R.C.S.	Shanghai.

Dr. J. WATSON'S Report on the Health of Newchwang for the Eighteen Months ended 30th September 1882.

THE meteorological table which I furnish below calls for no special remark. It gives in sufficient detail the climatic conditions which have obtained in the period with which it deals.

METEOROLOGICAL TABLE for the Eighteen Months ended 30th September 1882.

YEAR AND MONTH.	Highest Reading of Barometer (Aneroid) for the Month.	Lowest Reading of Barometer (Aneroid) for the Month.	No. of Days Temperature fell below 10°.	No. of Days Temperature fell below 20°.	No. of Days Temperature fell below 32°.	No. of Days Temperature fell below 42°.	No. of Days Temperature was above 65°.	No. of Days Temperature was above 70°.	No. of Days Temperature was above 75°.	No. of Days Temperature was above 80°.	No. of Days Temperature was above 85°.	No. of Days Rain fell for upwards of 2 Hours in the 24.	No. of Days Snow fell for upwards of 2 Hours in the 24.	No. of Days no Rain or Snow fell.	No. of Days Thunderstorms occurred.	No. of Local Duststorms.	No. of Days High Winds prevailed for a longer Period than 2 Hours in the 24.
1881.																	
April	30.44	29.60	...	...	3	18	1	...	...	...	...	6	...	22	...	...	10
May	30.36	29.66	...	...	...	1	21	11	7	2	...	3	...	15	...	...	8
June	30.04	29.50	...	...	...	...	30	30	26	11	1	4	...	23	...	...	1
July	30.04	29.61	...	...	...	...	31	31	31	26	12	13	...	18	...	...	3
August	30.09	29.68	...	...	...	...	31	29	29	21	9	8	...	19	...	...	2
September	30.44	29.69	...	...	...	...	29	25	15	9	...	2	...	26	...	...	...
October	30.61	29.91	...	...	1	9	8	4	1	...	...	1	...	29	...	...	3
November	30.63	29.23	...	7	25	26	4	1	...	...	...	4	3	25	...	...	1
December	30.86	30.14	9	25	31	31	...	...	...	...	...	1	3	28	...	...	3
1882.																	
January	30.96	30.10	9	23	31	31	...	...	...	...	...	1	3	30	...	...	1
February	30.10	29.96	5	25	28	28	...	...	...	...	...	...	1	27	...	...	1
March	30.86	29.15	1	12	28	31	...	...	...	...	...	1	3	27	...	2	8
April	30.43	29.75	...	...	4	18	5	3	...	...	...	5	...	24	...	2	6
May	30.30	29.58	...	...	...	...	26	19	...	...	...	...	...	27	1	...	2
June	30.16	29.64	...	...	...	...	29	27	20	16	4	6	...	21	...	...	4
July	30.10	29.71	...	...	...	...	31	31	31	28	12	10	...	15	1	...	...
August	30.52	29.67	...	...	...	...	31	31	31	20	9	3	...	24	...	...	1
September	30.50	29.69	...	...	...	4	26	21	18	9	3	5	...	22	2	...	1

Note.—The highest temperature registered was 95°, on 3rd July 1882. The lowest temperature registered was 1°, on 24th December 1881. A strong gale from N.E., force of 8 to 9, commenced at 2 A.M., 4th October 1881, and moderated after daylight same day to a fresh breeze.

There have been 12 European children born in our settlement during the last 18 months. Of these, four were boys, two of them twins, and they both required to be delivered by

forceps. Of the girls, one was a case of foot presentation. Another of the girls was imperfectly developed; it never breathed freely, and it lived only five hours; it was peculiar in having on each hand six fingers, and on each foot six toes.

One of the twin children, when born, $4\frac{1}{2}$ lbs. weight, breathed freely enough, but was unable to take food. By means of injections, etc., it was kept alive 11 days, but it then died of inanition.

In addition to the deaths of infants above referred to, there were three young children who died during the period under review.

One died from inflammation of the brain, and two from the effects of exposure to extreme cold.

The mode of death was different in these two cases. In the one there was intense inflammation of the trachea and bronchial tubes. In the other there was acute catarrh of the stomach and bowels, and passive congestion of the lungs. The first was a fine, strong child, while the last was weak and delicate; but both sank rapidly.

Three Roman Catholic sisters died from typhus. Two of these I did not see at all, and the third case was beyond the reach of medicine when I was sent for. There are seven surviving sisters, and all of them have had typhus.

For the first time in our settlement—the Roman Catholic Mission is mainly outside it,—an undoubted case of typhus occurred. The patient was a delicate and unhealthy young man, who had exhausted himself by over-exercise, and, it is believed, exposed himself to infection by visiting the Roman Catholic Mission. He was delirious from the second day, and died on the thirteenth day of the fever.

There was one other death,—a case of Bright's disease of the kidney and fatty heart. The patient was one of the oldest residents, and for several years past had been in a very critical state. For some weeks before his death there was general dropsy.

During the 18 months to which these brief notes refer, a much larger European mortality has occurred than in any former similar period. With the exception of the cases of the two young children, none of the deaths seem to have been induced by climatic conditions. I long ago pointed out, however, that our winter months were very trying to young children, and it is absolutely necessary that they be well protected from its depressing influence.

Some very interesting cases have come under my care during the last 18 months, and I hope at some other time to direct medical attention to them.

Dr. J. G. BRERETON's Report on the Health of Chefoo for the Year
ended 30th September 1882.

For the following meteorological table, I am indebted to Mr. JENNINGS, Harbour Master:—

YEAR AND MONTH.	THERMOMETER.				No. of Days Rain.	No. of Days Snow.
	Highest.	Lowest.	Average.	Average, 1880.		
1881.	°	°	°	°		
October	84	44	64	57	4	..
November	67	28	47	44	2	1
December	54	18	36	30	2	7
1882.						
January	50	18	34	27	...	5
February	54	22	38	29	...	1
March	74	26	50	45	...	...
April	77	37	57	57	5	...
May	98	48	73	68	1	...
June	98	55	76	72	2	...
July	100	68	84	77	5	...
August	96	64	80	80	4	...
September	89	57	73	72	2	...

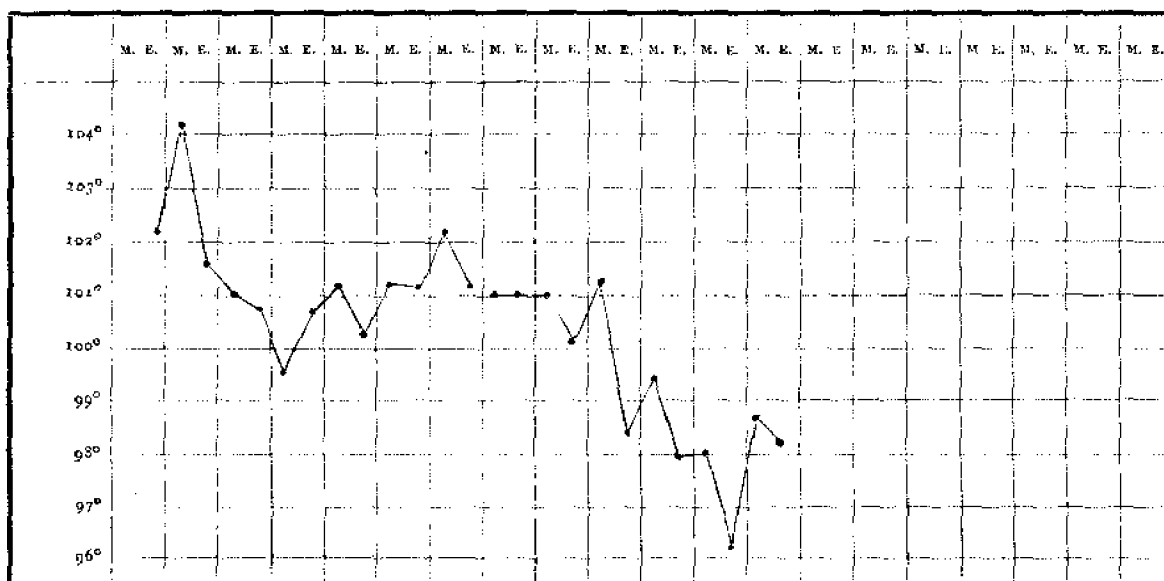
It will be seen from the above table that the temperature during the past year was fairly equable, the winter months having been exceptionally warm, and the summer by no means unusually hot. The amount of rain, however, was much less than in former years, and possibly to this may be attributed a considerable decrease in the number of cases of diarrhoea which generally occur during the hot weather. On the other hand, I have to record several cases of fever bearing many of the characters of typhus, but differing from it in various particulars. The disease was principally confined to the Chinese, only one foreigner having been affected.

The first case occurred in a Chinese boy residing at a missionary school, and in two or three days afterwards other children attending the school were laid up with it, until, finally, almost all the children became affected. The disease was not confined simply to the children, as two of the native teachers were attacked during the convalescence of the children.

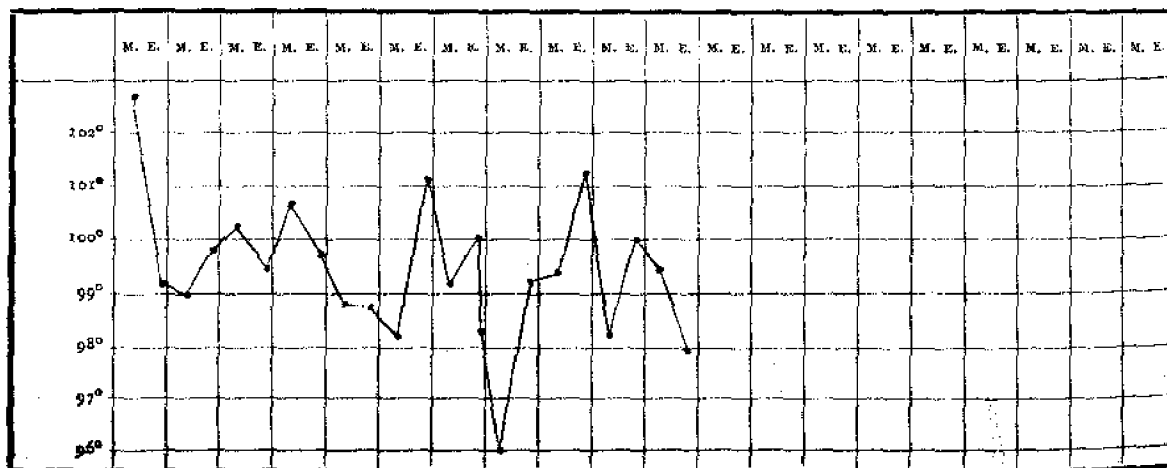
During this time, an adult foreigner, who had had no communication with the school for a week or 10 days previously, became affected, and in this case the temperature ran much higher than in the native children. The following charts will show the difference. At first there was considerable difficulty in distinguishing the character of the disease. In all, it came on in 48 hours, with great headache and constipation. On the fifth day, five or six brownish red typhus-looking spots appeared over

the chest and abdomen, which were permanent throughout, and did not disappear on pressure. In some, delirium was present, and all terminated favourably by a crisis of diarrhoea or sweating during the third week.

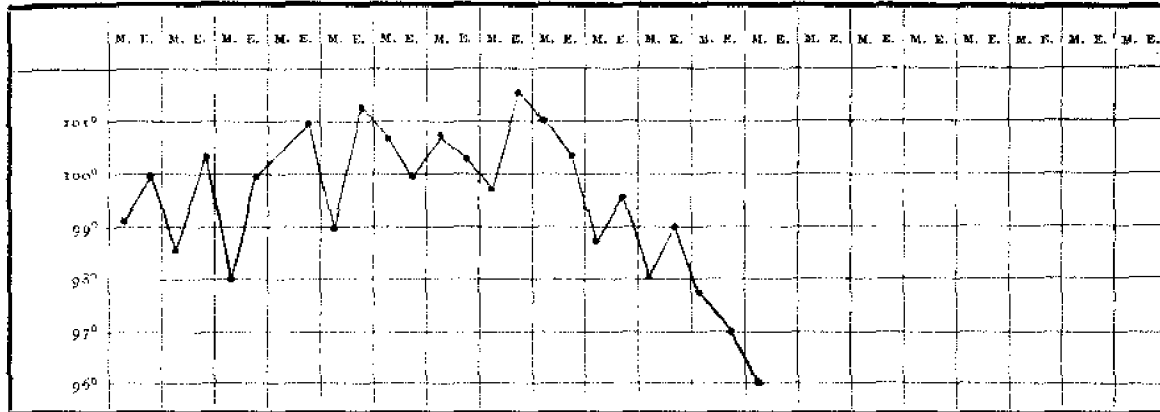
TEMPERATURE CHART of CHINESE; Age 14.



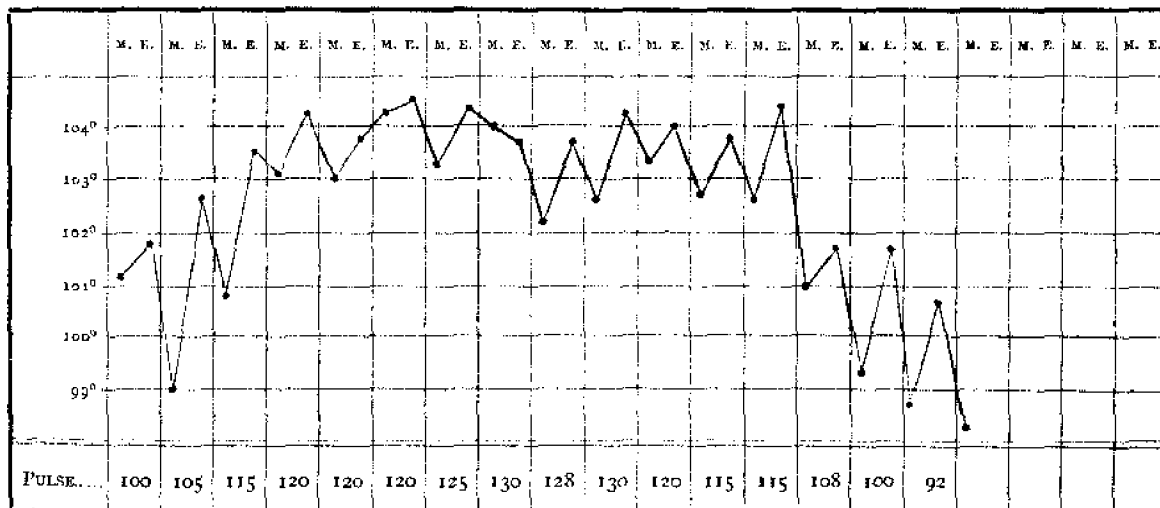
TEMPERATURE CHART of CHINESE; Age 12.



TEMPERATURE CHART of CHINESE; Age 8.



TEMPERATURE CHART of Miss —; Age 25.



In the early spring some cases of ulcerated sore throat occurred, but all recovered in a few days.

Eleven births occurred during the past twelve months. Three of the mothers were visitors. There was one case of twins (girls).

In one instance, there was high fever on the fifth day, after severe rigors. Lochia ceased; tympanites with abdominal pain set in, producing considerable distress, and giving a most unfavourable impression as to the prognosis of the case. Tincture of aconite, in $\frac{1}{2}$ minim doses, every 15 minutes for two hours, was given at the outset, then at longer intervals. By this the temperature was reduced about 5° in 12 hours. The medicine was then stopped, but was renewed on the following day, as the temperature had risen to $103^{\circ}.4$. The aconite was continued till considerable prostration had set in, after which nitro-muriatic acid and quinine were given. On about the 12th day phlegmasia dolens occurred, from which, however, the patient made a good recovery.

Dr. A. HENRY's Report on the Health of Ichang for the Half-year
ended 30th September 1882.

SINCE Dr. McFARLANE wrote his Report,* two years ago, there has been no change in the conditions of life at this port. The number of foreign residents still remains about a dozen, *made up of official and missionary elements*. The foreign merchant has not arrived; nor, with the present manner of conducting trade in this country, is he to be expected. Thus, few in number, we are condemned to bear with evils prejudicial to health and comfort, which larger foreign communities settled in other parts of China have been able to cope with successfully. Our "foreign settlement" exists merely in name, serving as a convenient designation for the quarter of the suburbs in which is situated the British Consulate. For, with the exception of two buildings erected in foreign style during the present year, there has been no disturbance of the original Chinese character of the landscape. The quarter consists of a long row of hovels, perched on the slightly elevated bank of the river, and flanked behind by an equally long row of vegetable gardens. The latter, liberally and frequently supplied with night-soil, are the source of an intolerable stench, which prevails in the neighbourhood of our dwellings during the greater part of the year. The Custom House and Commissioner's residence are an adaptation of a Buddhist temple, placed near the city end of the line of hovels. In an adjoining compound the Customs out-door staff and Medical Officer reside; the former in a Chinese house, the latter in one of the foreign buildings just alluded to. The other foreign house is a large building to the rear of the Custom House, and it belongs to the French mission. The British Consulate is a Chinese house, on a site some feet below the level of the garden immediately behind it. The Scotch missionaries live inside the city, in Chinese houses. The great majority, therefore, of the foreign residents live in houses of a kind that cannot be rendered healthy or comfortable habitations. Built with mud walls, they are perilously hot in summer; and in rainy weather they are disagreeably damp and cold. Drains that are often blocked up, and mere receptacles for filth, are underneath; and the houses (with the exception of the Commissioner's residence, which has got a lath-and-plaster second storey) being one storeyed, the unhealthiness of the sleeping-places is apparent. The building of good houses, of a foreign type, is an imperative necessity in Ichang, if the *foreign residents are to have ordinary health and comfort*. With the present habitations, a low state of health is induced, even if dangerous illnesses are escaped.

In addition to the want of proper dwelling-places, absence of the most simple sanitary precautions on the part of the surrounding natives is a source of danger. Night-soil is carried through the streets in open buckets at all hours of the day. The privies, notwithstanding, never seem emptied; and the odours that emanate from them and from the vegetable gardens are simply sickening.

But if from man Ichang has derived these unhealthy, malodorous, and unsæsthetic features, nature has tried to compensate by the lavish charms of the surrounding country.

* *Customs Medical Reports*, xx, 18.

The scenery of the gorges is well known; and the mountains that lie around in all directions, by their grandeur, their precipices, waterfalls, and lovely glens and valleys, make up scenery of marvellous picturesqueness. Though the roads in the immediate neighbourhood are wretched pathways, which become impassable with a shower of rain, so that walking is often scarcely feasible, yet there are many ways by which a healthy amount of physical exercise can be obtained. Game is fairly plentiful, and good shooting can be got within easy distances. A lawn tennis ground has been laid down by the English Consul. The river affords excellent boating in winter, and pleasant trips can be taken at all times.

The climate is like that of the other Yangtze ports,—extremely hot during one or two months of summer; but during the rest of the year, tolerably agreeable. Rain falls on a large number of days, as might be expected from the mountainous nature of the district. On the hottest days there is generally an up-river breeze, which, however, unfortunately lulls in the evening; and the nights, with their motionless air, and a temperature ranging from 80° to 85° F., render sleeping a matter of difficulty for weeks. I append a table, which gives an abstract of the meteorological readings for the six months, taken by Mr. Assistant Examiner LE BRETON.

Although Ichang is built on a low-lying alluvial flat, the portions of which that are not built over being graves, rice-fields, and odorous gardens, yet malaria does not exist in a severe degree. There has been, so far as I can learn (with one possible exception, which I shall refer to afterwards), no serious case of malarial fever or dysentery among the foreign residents of Ichang. Epidemic diseases, save small-pox, are unknown.

The native population is a sturdy one, coarse-featured and unintellectual, but healthy. The smoking of Szechwan opium is widely prevalent, and there is a large consumption of alcohol; and the sight of a drunken labourer or farmer reeling home from market, wake, or wedding, is common enough to be suggestive of life in Western lands. The dirty habits of the natives, rather than their vices, render them uncomfortable as regards themselves, and disagreeable to others. These habits explain the universal plague of parasites and parasitic diseases of the skin,—porrigo, scabies, and tinea representing the latter; pediculus, cimex, and pulex, the former. But a mode of treatment has been devised, which I may term the "smoke-bath," and which appears to be an Ichang invention, that might be recommended to the speculators at home in hydropathy, electropathy, and such-like, on the score of novelty. About sundown one may often see on the beach a naked form lit up by the lurid glare of a pile of burning shavings. The form waves a bundle of clothing frantically around in the smoke. This seeming "joss-pidgin" is merely the recognised and effectual mode of parasiticide.

There is not much practice to be obtained among natives. Willing enough to chance a dose of medicine, they will not endure a regular course of treatment.

One of my experiences was in the case of a woman who, in the eighth month of pregnancy, had been suffering from hæmorrhage for more than 10 days. The native doctors had pronounced the case perfectly hopeless. I was then sent for. I went to the house, a most wretched matshed, which, during the time of my visit, was nearly overwhelmed by the pressure of the crowd of natives who wished to see the foreign medicine-man at work. The woman refused to be examined by me except vicariously, by the fingers of an old midwife. Her condition was not so bad as might have been expected; and I risked the opinion that she might get over it. I came away, and next day she gave birth to a still-born child, and finally recovered.

Prejudice equally closes the very extensive field that exists here for postmortem examination. Fatal accidents are common. During the early part of the year, a party of eight beggars, who were sleeping at night in a hollow in the bank of the river, were killed by the falling in of the superincumbent mass of earth and stones. A similar fate not long since overtook a coolie who was excavating clay in a pit hard by the Custom House. As proofs, however, of the existence of the sentiment of humanity, I may adduce two important institutions here, namely, free ferries, and the peculiar red boats, which are often effectual in saving life in the numberless cases of accident on the river at this place, and more especially higher up, in the rapids.

Suicide is wonderfully prevalent. The usual modes of ending life are by strangulation, hanging, and the swallowing of opium. Within a radius of 200 yards from the Custom House, eight cases have occurred in as many months. The family arrangements of the Chinese, which do not provide a separate home for each son as he marries, are to blame for most of these.

With regard to the health of the Customs staff during the half-year, I have to report favourably, no case of serious illness having occurred.

One of the staff was suffering from ranula when I arrived in April. It had been treated in Hankow, by cauterisation with acid; but it recurred. I made a free incision; and a probe being passed frequently afterwards, it gradually closed up from behind. This patient was just recovering from his third attack of hæmato-chyluria. His weight and strength had been materially reduced during the seven weeks it lasted. Since then his health has been good; no recurrence of the hæmorrhagic condition has taken place,—the only noticeable fact being that in several small patches on various parts of the body the pigment has been entirely removed. I have searched for filariæ, but have been unable to find any. The late Dr. RILD also searched for them, but with negative results.

Two or three accidents, not serious, occurred. One is illustrative of the risk incurred by attempting to extract a pin-fire cartridge with a common key. The cartridge in this case exploded, causing a burn, fortunately of little severity. Another case was that of a broken rib. Crepitus could not be found on manipulation, but all the other signs of fracture of a rib were present; and on auscultation a well-marked loud crepitus could be heard over a limited area, which was the spot complained of as tender. Some cases of diarrhoea, round-worm, and other trifling ailments, make up the sick list of the Customs staff.

I cannot speak so favourably of the health of the rest of the foreign community. Two deaths occurred among them.

The first case was that of a young Eurasian girl, a native of India. The evening I arrived in Ichang I was summoned to attend her. She had been ill for about a fortnight. The first symptoms were described to have been headache, dizziness, and diarrhoea. Worms were suspected, and she was dosed with santonine. Gradually she became worse, getting every day more and more feverish; then delirious at night, and then both night and day; and at times she sank into a lethargic state. No spots had been observed, and the diarrhoea stopped after the first three or four days. On the last day urine and fæces were passed involuntarily.

On seeing the patient, she was lying prostrate, in a typhoid state, much wasted; eyes glazed; lips covered with sordes; tongue brown; heart's action feeble; pulse, 140; lungs free from râles, and clear on percussion; abdomen tympanitic; spleen not perceptibly enlarged. Next morning patient became much worse; gurgling could be discovered in the right iliac fossa, and some crepitation in the lungs. Coma rapidly supervened, followed by death in two or three hours.

No temperatures had been taken in the case. The history points to typhoid fever; but it is very questionable whether this disease, though known in Shanghai, occurs here. Dr. REID told me that during his long practice in Hankow he had never met with a case of typhoid. The question then arises, was it a severe case of remittent fever, or one of those cases of so-called typho-malarial fever, the nature of which is not yet clearly settled. The patient had been in the habit of drinking large quantities of water, the proper filtering and boiling of which was doubtful. She lived in a Chinese house; and the state of the drains is unknown.

The second case of death occurred from heat apoplexy. This took place on the 2nd August. For some days previous the heat was extreme, the thermometer registering 95° F. by day and 83° by night.

The patient was a man about 50 years of age, whose general health for some time previously had been very poor. He had been suffering for some days from diarrhoea; and in the wretched house in which he lived, sleep had been impossible for several nights. On the day before his death he went out at midday in the sun, and came in much fatigued, and lay down, sinking into a heavy sleep, with stertorous breathing. The day of his death, with extraordinary imprudence, he went out twice in the sun, the second time without hat or umbrella. This morning he had drunk a quantity of strong Chinese wine. One of his servants followed him, and found him lying in the street, unconscious. He was brought to his house. When I arrived, about an hour after the seizure, he was lying prostrate, breathing heavily. The skin was extremely hot, feeling dry and scorching; pulse small, irregular, and frequent; face livid; lips pale and covered with sordes; breath offensive; eyes closed, insensible to light, the pupils being contracted to the size of a pin's head, and the conjunctivæ injected. The body was insensible to pricking.

The treatment I adopted was cold water douching from a height; while, by fanning and by opening doors and windows, I tried to render the room as cool as possible; but its temperature remained very high. Unfortunately, there was no cooler place to which to remove the patient. I applied a blister to the nape of the neck. After a time, relaxation of the pupils occurred, and the surface temperature diminished. However, the breathing became more and more noisy; fæces were passed involuntarily; a cold clammy sweat spread over the body; and the pulse became almost imperceptible. I then discontinued in great measure the douching. Convulsive movements now affected the tongue; and in a short time the muscles of the body were similarly affected, so that the patient bumped up and down on the trestle on which he lay. The convulsions did not in the least spread to either arms or legs. The breathing became extremely noisy, and in about five hours from the time of seizure the patient died.

In this case it may be noticed that the patient was predisposed to an attack by his low state of health, his want of sleep during the preceding nights, and his imprudent habits. The time of seizure was about 4 P.M., when the maximum temperature of the day occurs. Evidently, the body was excessively overheated, and vaso-motor paralysis, with great pyrexia, consequently ensued. I could not obtain any trustworthy temperatures. The means of treatment at my disposal were very inadequate. Ice could not be obtained; and in this case the first indication, to my mind, was to reduce the body heat as quickly as possible, as the blood in its overheated condition was acting as a poison to the nervous centres. The convulsions only occurring in the trunk was an unusual symptom.

During this trying period of heat, which claimed one victim from among us, the natives suffered very much. Complaints of want of sleep were loudly expressed, but I heard of no

cases of sunstroke. This disease is, however, well known to the Chinese. I may here appositely quote the following passage from Mr. E. C. BABER:—

Heat apoplexy, known in Ssü-ch'uan as *Lei ssü*, or death from exhaustion, is a common and well-known cause of death among the Chinese, and there is, in my poor opinion and experience, no reason to suppose that foreigners are more liable than natives to suffer from it. The latter, no doubt, resist exposure to the direct rays with greater impunity, but they are on the other hand less able to bear up against the weakening effects of a long period of exceptional heat, though relieved by the constant use of the fan and the habit of sleeping naked. The nightly attacks of musquitos are not a whit less formidable to the Chinaman than to the Englishman, and much severer cases of the inflammation known as prickly heat may be found among the Ssü-ch'uanese than among the European colonists of Hongkong or Shanghai.

A native of Chêkiang who was with us volunteered the information that in his province fatal cases of sunstroke are unknown, although people sometimes die of drinking cold water. In his opinion, the Ssü-ch'uanese are more susceptible, on account of the thinness of their skins.*

It appears that the Chinese have great faith, in such cases of exhaustion, in their favourite practice of acupuncture.

ABSTRACT from METEOROLOGICAL TABLE.

1882.	THERMOMETER (FAHR.).				BAROMETER.		RAIN.	
	Highest.	Lowest.	Average Highest.	Average Lowest.	Highest.	Lowest.	Rainfall in Inches.	Number of Days.
April.....	82	43	66	56	30.14	29.55	5.38	16
May.....	89	57	77	67	29.89	29.44	9.32	17
June.....	88	67	79	72	29.85	29.35	8.96	22
July.....	95	70	86	76	29.87	29.48	6.83	20
August.....	97	69	93	77	30.01	29.57	3.07	7
September.....	87	59	79	70	30.19	29.81	5.22	17

* *Travels and Researches in the Interior of China*; by E. COLBORNE BABER, pp. 11, 12. London: Murray, 1882; published for the Royal Geographical Society.

Dr. G. R. UNDERWOOD'S Report on the Health of Kiukiang for the Half-year
ended 30th September 1882.

THE health of the foreigners residing at this port was very good during the first four months of the half-year, but the two following were marked by an amount of sickness unusual in Kiukiang. The season was comparatively cool up to the middle of July, and the rainfall less than last year. We had, however, a great rise in the river, which was higher than it has been at any time within the last 10 years. In July and August the greater part of the Foreign Concession was under water, though in only three foreign houses was the ground floor covered, and hundreds of people, in the streets outside the city and in the surrounding country, were flooded out of their homes. Staging and boats were the only feasible means of getting about in the Concession and the Chinese streets behind. There was no loss of life in this neighbourhood, the rise being so gradual that people had ample time to prepare for removing to higher quarters. So long as the river continued to rise, there were few ailments. After it had fallen a few feet, cases of intermittent fever and dysentery began to crop up, which could only be ascribed to the decaying organic matter left by the flood, and the putridity of the water itself, where it was stagnant. On the Bund, where the water was constantly in motion, and where, when the flood began to subside, it quickly went away, the ground was dried at once by the sun, and there was not a single case of fever. In the back street there were nine cases of intermittent fever in six weeks. The water was under the floors of all the houses, and the lake behind having an imperfect outlet, it became stagnant, and at times developed a most unpleasant odour. It is not yet known whether there was more fever than usual among the Chinese. Certainly, in many instances families were driven from low malarial ground to camp on the hills about the city, and thus they had a chance of escape. Possibly, too, the washing away from the streets of the accumulated filth of years might lessen the amount of sickness due to that cause.

One case of Asiatic cholera was landed from the s.s. *Pekin* in August. The patient, a native fireman, was in a state of collapse when carried ashore, and died eight hours after, and 24 from the time of his seizure. There were, it is said, several other deaths from cholera on the river steamers, but none in Kiukiang, so far as my knowledge goes.

The following is a short *résumé* of the principal diseases treated during the half-year:—

Towards the end of April a member of the Roman Catholic Mission of Kiangsi came under my care for dysentery, which had lasted more or less for two years. He was put on milk diet. Ipecacuanha and opium, and astringents by the mouth, were tried, without any beneficial effect. Enemata, containing 1 drachm of nitrate of silver to 3 pints of water, at a temperature of 98°, were then used, as recommended by Dr. S. MACKENZIE.* At the end of eight days, during which he had, in all, three enemata, he was so much better as to require no further medicinal treatment.

* *Lancet*, 1882; i, 640, 681.

An interesting case of varicella prurigo, only less marked as to the itching than the case recorded by Mr. HUTCHINSON in his *Clinical Lectures*, seems worthy of notice:—

H. B. H., a strong, healthy child, of fair complexion, fed partly by his mother and partly with cow's milk, had good health up to January last, he then being four months old, and teething not begun. In that month, after slight fever, lasting one day, an eruption of rosy papules, in all, perhaps, 60 or 80, and accompanied by itching, was noticed on his head, back, abdomen, legs and feet, the soles of the feet being especially affected. On the breast and arms there was no eruption. Next day, when seen by me, many of the papules had become vesicles, filled, some with a clear, and others with a slightly turbid, fluid, and a number of fresh papules had come out. The diagnosis was varicella, and knowing that people had access to the child who came from houses where there were cases of variola at the time, he was vaccinated at once. On the third and fourth days, some of the vesicles had dried up, others were now umbilicated pustules, and others that had been broken were covered with a scab, and fresh papules were still appearing and maturing in the same way. Some of the pustules enlarged, leaving small scab-covered ulcers, which healed in from 8 to 10 days from the beginning of the eruption. The vaccination ran its course without apparently being affected by the varicella. Except a little annoyance caused by the slight itching, and soreness of the pustules, the child was quite well, and took food as usual. Fresh papules continued to come, in diminishing numbers, till the end of March, when the eruption disappeared. The only treatment adopted was tonic, viz., quinine in small doses, and the compound syrup of phosphates, with calamine ointment to the sores on the limbs. In May the eruption returned, and was more troublesome on the soles, toes and legs than before, and the vesicles were larger. With it there was a little itching, but not marked. The former treatment, with a change to the hills, was advised. After a month at the bungalow in the Lushan the eruption quite disappeared, having lasted six weeks, and the patient's appearance was more healthy. In the present month—October,—the child being feverish with teething, the eruption returned in the same situations as before. This time the itching has been greater, though not a special feature, and the feet were swollen where the papules appeared. At the time this case came under observation no patients with varicella came to the hospital, but small-pox was prevalent in the city.

Intermittent Fever.—In April, a case which had lasted one month, in a new-comer to Kiukiang, was much benefited by the change, and was cured before the end of the month. Three cases of intermittent, and one of severe diarrhoea, were treated in May and June, and all did well. In July, one patient who had had intermittent for months in the interior, and two others suffering from the same disease, came under treatment, and recovered quickly.

In the beginning of August, a case of dysenteric diarrhoea—in pregnancy—came under my care.

Though in a new resident, it proved most intractable from the first. Under milk diet, opium, bismuth and ipecacuanha, internally, and large warm-water enemata, it was a little better, when labour came on at the full term, and nearly three weeks from the beginning of the disease. The labour was natural and fairly easy, and the placenta and membranes came away readily, and without any shred being left behind, so far as I could judge. The diarrhoea was most troublesome during labour, but seemed less in the afternoon of the same day; the pulse was 80, and temperature 98°.6. The following morning the patient had a severe rigor, with temperature of 103°, quick pulse, and increased abdominal pain and tenderness. Opiates, mustard plasters, etc., were used to relieve the pain, and the vagina was carefully washed with a solution of carbolic acid twice a day. The pain was removed, but the diarrhoea became worse in spite of all treatment, and the patient died on the ninth day after her confinement. That septic poisoning was the cause of death is certain, but whether by absorption from the uterus or of putrid faecal matter in the intestine is, I think, doubtful. The diarrhoea was brought

on by incautions exposure to a draught, the nights being very warm. During the whole of her illness the atmospheric conditions were unfavourable.

In the same month a case of acute dysentery yielded readily to ipecacuanha in large doses. Four cases of intermittent were also under treatment, and did well, as did three patients suffering from purulent conjunctivitis. The latter disease was transmitted by contagion from Chinese children. Seven patients with intermittent were also attended in September, and one case of mild typhoid ran a favourable course. Three cases of acute dysentery were under treatment also, and with a good result. In only one case of dysentery was the type severe. One patient suffering from gout applied for relief, and two cases of venereal disease had a successful result.

At the Native Hospital there were, during five months—the flood compelling a vacation of one month,—3,400 applicants for medical assistance, being 200 more than for the whole year 1881. The Chinese here, as in the other treaty ports, appreciate the benefit to be got from foreign medicine, as is shown both by the increased numbers and by the long distances they come. Our chief difficulty now is to find means for building a good hospital and carrying it on. The house used hitherto as a hospital is a damp, badly ventilated building of one storey, and the drainage and sewage arrangements connected with it of the rudest. It is at present in use temporarily as a home for the sisters of charity who have just come here, and meantime the patients have plenty of air space in a large godown. The foreign residents, though subscribing freely, are few, and the Chinese who care to give are limited almost entirely to those connected with foreigners, and to members of the congregation of the French Catholic Mission. The want of careful nursing and supervision has hitherto been a drawback to success. That is now remedied by the sisters of charity undertaking the care of inside patients; and I am hopeful that before next summer we shall have a building better adapted to the work than the present. Among others, the following case is interesting:—

Ko YÜCHU, aged 19, assistant in an opium shop at Hu-shih-peh, in Hupeh, was admitted on 26th March 1882, complaining of a tumour in the neck, which was a great hindrance to him in his work. The patient, of slender build, 5 ft. 4 in. in height, and fairly well nourished, was seen to have a large, rounded tumour, occupying with its base the whole of the posterior and part of the anterior triangle of the neck on the right side, and hanging down as low as the nipple. Its surface was smooth and rounded, and at one point on the anterior face there was an ulcer 1 in. in diameter, the result of an injury. To the touch it felt soft and homogeneous, and measured, from the mastoid process over to the middle third of the clavicle, 20 in., and from the sternoclavicular articulation to the margin of the trapezius, 19 in. The patient said that it was painless, had been growing 15 years, and inconvenienced him much, by dragging his head to one side. It was diagnosed to be a fatty tumour, and on its removal being advised, the lad and his friends consented, and the operation was done on the 29th March. Consul JAMIESON gave chloroform, and two incisions were made, beginning at a point on the same level with and $\frac{3}{4}$ in. behind the angle of the jaw, passing over the tumour, and separating from each other to the width of 2 in., so as to include the ulcerated piece of skin, and again converging to a point at the middle third of the clavicle. The tissues were then reflected on either side, so as to get behind the tumour, care being taken of the large veins, which were numerous, and ligatures put on them before division, where it seemed necessary. The whole of the posterior triangle was laid bare in the dissection, and the upper part of the anterior as well, a lobule of the tumour passing behind the sternomastoid, which—apparently somewhat atrophied—was exposed in its whole length, as was the

sheath of the common carotid, in the upper part of its course. The size of the tumour made it difficult to manipulate, though the chief danger to be apprehended was the entrance of air into the cut veins, in the acts of respiration. The tumour being removed, and the wound washed out with carbolic solution, the edges were brought together with stitches, a drainage tube being left in. The skin was just enough to cover the wound, though so little was removed, and now that it is healed there is a little puckering at the upper part of the cicatrix. The dressing used was lint, soaked in carbolic oil 1 to 12. In four weeks the patient was able to go home, the wound being entirely healed. An attack of intermittent retarded recovery somewhat. The tumour was a capital specimen of simple fatty growth, and weighed exactly 10 pounds. The accompanying drawings give a good idea of the appearance of the patient before and after the growth was removed.



In June the following case of malignant disease of the eye-ball was treated with a less fortunate result :—

HÜ JUANPAO, aged 4, residing at Siao-chi-kao, province of Hupeh, was admitted to the hospital on the 6th June, suffering from a fungating tumour, the size of a mandarin orange, protruding from the right eye-ball. This growth, the parents said, had come in three months, was rapidly increasing, occasionally bleeding, and now and then painful. The child, still being nursed by his mother, was not apparently suffering from the disease constitutionally, and to give a chance of recovery, extirpation of the contents of the orbit was advised, it being explained at the same time that the probabilities of recovery were as 1 to 10, even with the operation. The parents having consented, the tumour, with the contents of the orbit, which were matted together, was removed, as far as possible, with knife and scissors, and the bleeding readily checked by a stream of cold water. The edges of the conjunctival bag being held apart, chloride of zinc paste spread on small pieces of lint was plastered all over the surface of the orbit, the lint being kept in position by a piece of dry cotton, as recommended by LAWSON.

A compress of lint and a roller completed the dressing. The child had much pain for the first eight hours, and, unfortunately, part of both eyelids sloughed from the extension of the action of the chloride of zinc. In 10 days the sloughs caused by the caustic separated, leaving a clean, healthy-looking surface. Meantime there was slight swelling over the parotid gland on the same side, which developed a firm, hard base, with a small abscess on the surface. Within four weeks it was evident that the disease had recurred in the parotid, by that time the eye being entirely healed. Nothing further could be done.

I am indebted to Mr. Harbour Master LAND for the following meteorological data:—

1882.	TEMPERATURE, MEAN.		RAINFALL	
	Maximum.	Minimum.	No. of Days.	Inches.
April.....	65.12	56.04	11	9 $\frac{7}{8}$
May.....	76.05	68.33	10	10
June.....	80.50	75.48	11	14 $\frac{2}{3}$
July.....	83.05	77.08	12	18 $\frac{1}{2}$
August.....	85.50	79.26	3	1 $\frac{3}{8}$
September.....	79.56	74.02	7	2 $\frac{1}{2}$

Dr. W. A. HENDERSON'S Report on the Health of Ningpo for the Half-year
ended 30th September 1882.

THE hot season of 1882 has been extremely cool for Ningpo. For the four months, June, July, August and September, the maximum temperature was $77^{\circ}.9$, and the mean minimum $74^{\circ}.7$, the former being about 3° less than that of the two former years, and $7^{\circ}.5$ less than that of 1879. Throughout the season there was a great deal of rain. In June, rain fell on 12 days; in July, 15; in August, 12; and in September, 11. Further, without almost any intermission, there was a daily sea breeze, which, together with the coolness, was productive of as reasonable a degree of health as is compatible with such a region as that in which Ningpo is situated. Another circumstance which must have contributed to the health of the community was the cleaning out of the drains. They had been neglected for many years, and in March last it was decided that, though late in the season, it would be a lesser evil to allow them to remain festering throughout the period of the greatest heat than to make the attempt then. The operation extended over a fortnight, beginning on the 24th March and ending on the 7th April. It consisted briefly of scooping up the accumulated filth, which was thrown into the river. Before beginning the cleaning process, through the Superintendent of Police the residents were advised to take quinine throughout the period; so far as could be learned, the advice was acted in accordance with, except in the case of two individuals, who both caught fever. In the one it took the form of the continued type, and in the other it lasted 24 hours, and was accompanied with vomiting and purging.

Dr. D. J. MACGOWAN's Report on the Health of Wénchow for the Year
ended 30th September 1882.

DURING the past year the few foreigners who reside at Wénchow enjoyed exemption from disease, but the general public health suffered interruption, owing to an exceptionally protracted rainy season, febrile and choleraic maladies prevailing more than usual, the poor being the chief sufferers, who, beside being badly housed, suffered from the enhanced price of rice, which the rains caused by injuring the crop. It is to be feared that the latter half of the year will not prove more favourable in a sanitary point of view. Unfortunately, opportunity for investigation of disease no longer exists at this port, owing to the removal of the Inland Mission Hospital, under Mr. DOUTHWAITE, to Chefoo.

The rains, to which this impairment of the ordinary health of this region is due, commenced earlier, continued longer, and were more copious than usual,—occasioning disastrous floods throughout the catchment of the northern portion of the Nanshan range, causing destruction in the south-western portion of this province, as well as of Southern Kiangsi and Anhwei, and inundations of the Poyang Lake and Lower Yangtze. The occurrence is too recent to ascertain how far these disasters have proved causes of disease.

CHINESE EPIDEMIOLOGICAL NOTES.

Prominence is given to the subject of epidemics in the instructions conveyed in the Circular of the Inspector General inaugurating these Reports, investigations of which call for extensive surveys; a report on the health of any one port may therefore, I assume, include reference to diseases that are found prevailing through the Empire at large.

Information respecting epidemics in the interior is supplied by correspondents of Chinese newspapers; these form the main source of the facts herein submitted: it is therefore meagre, but not an unacceptable contribution to climatal and epidemiological science.

These Chinese medical notices take cognizance, it will be observed, of meteorological and telluric influences as causes of disease, the exceptionally abnormal character of the weather during the summer of 1881, and the following autumn and winter, furnishing apt illustrations. The abnormalities consisted in a series of typhoons, of which there were a score, some of them extending late into the autumn. Then followed an "open winter," which was coincident with a like condition of weather which prevailed over the northern portion of the Europeo-Asiatic continent; at least, the winter was noted in North-eastern Europe as an unprecedentedly mild one. In Northern China, rivers and harbours experienced the ice blockade later, and the thaw occurred earlier, than usual. At the same time, barometric readings, which are always high in China during the winter, indicated a pressure greater than had yet been observed. Only statistical information can determine what effect those abnormal meteorological conditions had on the public health; and in the absence of vital statistics, we may

make some use of the consensus of "folk lore." This much is clearly discoverable, that while the atmospheric conditions affected an extensive area, there were no widespread epidemics corresponding to the cyclonic and anti-cyclonic phases that prevailed, those that are reported being local and sporadic.

I append all that has found its way into Chinese newspapers on the public health during the two semi-annual periods under review, divided into the four seasons,—a plan that accords with Chinese usage, which regards certain types of disease as more or less prevalent at certain periods of the year; for example, in spring, (疫) infectious and contagious maladies prevail, as typhus and small-pox; in summer, (痧) spasmodic cholera; in autumn, (痢) diarrhoea and ague; and in winter, (瘧) non-malignant fever.

OCTOBER, NOVEMBER, and DECEMBER 1881.

NANKING (the ancient capital, situated on the right bank of the Yangtze river).—Referring to the early autumn, the reporter notes numerous sunstrokes due to untimely heat. Showers that fell on the 20th September brought down the temperature, but it soon rose again, so that perspiration, even at rest, was excessive, and sleep unobtainable by night,—a state of things which was followed by a virulent form of cholera, from which children suffered most.

In the autumn there was a remarkable mortality among field rats at Nanking. It was first observed on the opposite side of the Yangtze, soon after in the western suburbs of the ancient capital. The animals emerged from holes in dwellings, jumped up, turned round, and fell dead. Baskets and boxes filled with their bodies were cast into the canal. Their colour was darker and their tails were shorter than the common rat. Here was evidently a subsoil poison, which affected the animals precisely in the same way as the malaria of the Yunnan pest (which extended to higher animals and to man). Happily, the subterranean miasm at Nanking did not affect animals that live above ground, nor did subterranean animals communicate the disease in any way.

SOOCHOW (in a lacustrine region, situated south of the Yangtze, on the Grand Canal,—the centre of silk culture; one of the most populous and fertile portions of the globe).—During the preceding summer, owing to alternations of cold winds and excessive heat, agues and bowel complaints raged with violence, children being the chief sufferers. It was given out that the God of Pestilence had descended, and people, discarding doctors and drugs, crowded the temples, entirely neglecting treatment.

The ill-health of summer extended into autumn; diseases prevailed beyond the capacity of doctors to give due attendance on the sick,—the cause of the maladies being untimely cold winds, with intermissions of extreme heat. Ague and diarrhoea were most prevalent and were very fatal, especially among children over 10 years of age, many of whom died the day they were attacked. In some cases whole households were prostrate at the same time.

YANGCHOW (north of the Yangtze, on the Grand Canal; topographical features like the latter region).—After the summer the heat became more intense, and numerous fatal cases of cholera occurred, but two out of 10 proving curable. At the same time a murrain prevailed among cattle, horses, pigs, and dogs. Similar accounts, except that relative to murrain, came from Ningpo and Hangchow; as Shanghai also suffered, it is probable that disease was unusually rife throughout the coasts of Northern Chékiang and Kiangsu.

HANKOW, 22nd November.—Since October the weather has been preternaturally warm, summer clothing being in request, and mosquitoes abounding; consequent on this unseasonable heat, there has been much sickness, but not of a fatal character. There was much mortality among hens; they were suddenly seized with fits, expiring at once.

JANUARY, FEBRUARY, and MARCH 1882.

HANGCHOW (on the Ch'ient'ang river, at the head of a great estuary, where commences the Grand Canal).—It was reported early in February that the winter weather had been characterised by fluctuations of heat and cold, which caused a large amount of inflammatory disease among children, who fell victims to throat maladies, for which there was no remedy, the disorder proving fatal in a few hours (diphtheria?); and at the time of writing, small-pox existed, children being attacked notwithstanding every precaution was taken to keep them in-doors, and by strict dieting. Besides, inoculated persons, between the age of 40 and 50 years, were confined to bed, their faces being covered with pustules; those cases, though severe, were not fatal, recovering in the course of seven days. Doctors said it was due to suppressed wind in the system, and to unseasonable weather,—sudden alternations of heat and cold,—and belonged to the variolous class of disorders: a “water pox” (varicella?). Its existence augurs well for a healthy spring.

SOOCHOW.—It was thought that as the summer and autumn were unhealthy, winter would bring an improvement, but intractable diseases still prevail, and now puerperal fever exists, not one in 10 recovering; it has been found incurable. Within a few days several tens have succumbed. Another account states that typhoid fever raged to such an extent, particularly among women, as to cause an increase in the price of woven fabrics.

YANGCHOW.—The warmth of last winter indicated, with its snow and rain, a fruitful year, but the cold, or negative principle of nature, being unable to cope with the positive or warm principle, disease became rife, particularly of the throat, among young children, who died a few hours after being attacked,—an utterly inexplicable circumstance.

APRIL, MAY, and JUNE 1882.

NANKING.—A mild winter and paucity of rain caused an unhealthy spring; the ordinary maladies of the season show a disposition to assume a chronic form, being cured with difficulty.

NANCHANG (on the southern shore of Poyang Lake), May.—The very changeable weather during the past season—unseasonable rain and sunshine, heat and cold alternately prevailing, followed by a furious storm, brought a degree of cold that caused extensive sickness, although not of a fatal character, yet it was cured with difficulty. The disorder resembled ague, but ague it was not; one day the patient would be better, and the next day worse,—a somewhat peculiar malady, and one to be guarded against. This region has also suffered from a pig murrain. Those who ate the flesh were attacked with boils.

CANTON, 10th May.—This province has suffered from want of rain, causing a loss of half the crops in some districts. There was much sickness, children being the chief sufferers. A rainfall abated the evil.

JULY, AUGUST, and SEPTEMBER 1882.

YANGCHOW.—In July this city and the adjacent region were revisited by cholera. In the year before, 40,000 fell victims, and now the epidemic is raging with greater violence than at that time. On that occasion the disease came from the north and went south. This year its course has been reversed; it approached from the south, travelled northward; the choleraic wave reached Tientsin and Peking in a mild form. A month later this unfortunate region was visited by three types of disease. The first chiefly affected men; it was caused by cold wind suppressing the summer's heat, inducing fever, which became irregular, some cases experiencing a change between the seventh and tenth days, when the heat gradually subsided, and the patients recovered; others, changing between the third and fifth days, presented petechiæ over the entire body, and succumbed. The second form of the epidemic appeared chiefly in women, who first suffered from chills, followed by fever, which did not subside; it was attended with a dry mouth. Cooling remedies were of no avail. Only two or three out of 10 survived. Thirdly, children suffered

from fever, followed by cold, while the whole face broke out into blotches, as in measles; when the eruption came out distinctly the patient took a favourable turn, otherwise the disease changed to a throat-locking malady, and terminated fatally.

CANTON, 1st August.—An epidemic has suddenly appeared in this city which makes its first attack by an excessive thirst and profuse perspiration, afterwards there is a flow of saliva, then the tongue retracts, and the patient dies of suffocation. Doctors direct that in such cases heated lard should be dropped on the tongue, to restore it to position.

HANKOW (on the left bank of the Yangtze, at the embogue of the Han river).—Native doctors report the existence of diarrhoea in the autumn, which when not treated at its commencement becomes intractable. Agues were uncommonly frequent at the same time, and in the cases of the crews of junks that had conveyed rice to Shantung in the spring, it was often fatal. These men returned from their voyage with diarrhoea, the water and food of Shantung not agreeing with them, and hence the ague proved too much for them.

SOOCHOW.—This city also suffered from a virulent form of cholera. It was preceded by agues and diarrhoeas; these last assumed a chronic form.

NINGPO.—At the close of summer there was a cattle murrain at Ningpo, in consequence of the heat; it extended to horses, dogs and goats. An epidemic affecting domestic animals generally, such as this, is an unusual occurrence. Cows and buffaloes died after having two or three watery stools, their illness being of a few hours duration. The year 1878 was remarkable for the virulence of this disease, exceeding what living men had before known,—80 per cent. of the cattle perishing. It was not a new disease, but one well known, only appearing at that time with greater intensity. Since then the disease has appeared each autumn.

The mountains to the south of Ningpo, in Fêng-hua and Tai-chou, appear to be the habitat of a microbe (*Bacillus anthracis*?), the organism of the splenic disease in cattle, from which that region is seldom free. The equine disease that prevailed simultaneously was probably glanders; ponies at Shanghai suffered from that malady about the same time. Concerning the canine epidemic, information is yet more meagre. The animals were suddenly seized with tremors, and speedily died, somewhat as dogs in China are known to perish when their hearts become clogged with filaria. Ningpo seems to suffer from an undue proportion of rabies; no year passes without the occurrence of several fatal cases of hydrophobia.

NORTHERN FORMOSA.—A detachment of troops from Hunan posted in Northern Formosa all suffered from fever; the type is not reported, only that it was of a fatal character. It has been found that men from the interior of China are less easily acclimatised than those from the adjacent coast. Excessive rains at this period, and the employment of the soldiers as road-makers, contributed to render them more susceptible to disease; and the absence of suitable medical attendance served to increase the disaster.

Dr. B. S. RINGER's Report on the Health of Amoy for the Half-year
ended 30th September 1882.

DURING the past summer the health of the foreign community was fairly good, and the port was singularly free from epidemic disease. Six births and two deaths have to be reported.

One death occurred on board a steamer outside the harbour, in the person of an engineer who shot himself with a revolver while alone in his cabin. The steamer put into Amoy, and the body was brought on shore, where a postmortem and inquest were held. The examination showed that the pistol had been fired into the mouth, the bullet shattering the orbital plate of the superior maxilla, the lateral plate of the ethmoid, and the lesser wing of the sphenoid, and lacerating the anterior portion of the left cerebral hemisphere. It was found lodged in the substance of the brain, just beneath the dura mater.

The second case was caused by drowning, and happened to a little girl, the daughter of a captain of one of the sailing vessels in the harbour, during a collision, in a heavy gale. The child fell overboard, and could not be recovered at the time. The body was washed on shore several days later, and identified.

Of the births, one was premature, the infant still-born, at six months.

In the early part of the summer a case of chronic quotidian fever, attended by some unusual and interesting symptoms, was treated.

The patient was a visitor, and had for several years resided in North Formosa, where, not long after his arrival, he contracted a malarious fever, which troubled him, on and off, ever since, the least exposure to sun or wet frequently bringing on an attack.

During the summer of last year the patient suffered severely from boils, which were sometimes so serious as to confine him to bed for several days. In the winter of the same year he caught a violent cold, which terminated in bronchitis and asthma, and lasted until the spring, when, again, his old enemy, quotidian fever, returned with great violence, the bodily temperature reaching on one occasion, in the evening, 106°.4. Next morning it had fallen to 99°.4, and frequently, after a very high evening reading, the temperature was found in the morning to be almost 1° below normal. After continuing for three weeks, the patient was advised to leave Formosa, which he did, and arrived in Amoy on 24th May.

On examination, no enlargement of spleen or liver was observed, but several indolent, elastic swellings were found. Of these, the worst were situated one over each buttock, and were so extremely painful that the patient was unable to lie on his back. After careful examination, I came to the conclusion that the swellings were collections of pus. After consultation with my colleagues, Drs. McLEISH and McDougall, I proceeded to aspirate one, from which I drew off several ounces of laudable pus. During the next 10 weeks, between 35 and 40 ounces of pus were drawn off from five separate collections. Those in the buttocks were very deeply seated, the point of the aspirating needle in one instance touching the surface of the bone before the matter was reached. A steady course of quinine, in 4-grain doses, was administered with much benefit, and the patient left for Japan early in July. He returned at the end of September free from fever and without any sign of further purulent deposit.

The question arises as to the cause of these purulent collections. Were they an effort of nature to cast off some effete material from the system, consequent upon the malarious

poisoning, analogous to the crops of boils which frequently follow severe cases, or were they due to some blood-poisoning, irrespective of the febrile condition?

Several obstinate cases of diarrhoea, with dysenteric symptoms, occurred, but eventually yielded to treatment. In such cases I find the exhibition of astringent enemata, such as acetate of lead and opium, most valuable. These enemata should be small, not exceeding from 2 to 4 ounces. These, if slowly introduced, are readily retained for hours, and exert the most comforting influence upon the irritated intestine. They may be repeated once or twice daily, according to circumstances. At the beginning of this Report I remarked upon the freedom of Amoy from epidemics. This is the more surprising seeing that in Manila cholera has been raging for some time, and that there is direct steam communication between Manila and this port. Previous to the quarantine regulations, which were afterwards carefully enforced, many hundreds of Chinese passengers were landed here, two of whom died of cholera shortly after arrival. Several other deaths were reported to me in the immediate vicinity of the inn where the above cases occurred, and I anxiously inquired during the next few weeks for any further mortality, but though a few cases were from time to time reported, the disease did not spread, and thus the city of Amoy escaped an epidemic. This, I think, was partly due to the fact that the passengers brought from Manila were for the most part non-residents in Amoy, and probably left the town without delay.

It would be well if lay residents could be brought to understand that an outbreak of cholera may commence slowly and insidiously, that cases may at first be few and far between, and that still a town may be in imminent danger of a severe epidemic without necessarily a sudden and sensational death rate occurring. This knowledge might to some extent prevent the apparent surprise caused by the refusal of health certificates and the adoption of other sanitary measures necessary under such circumstances, and pursued by those in a position to form an opinion in the matter.

Dr. McDougall, in charge of the Kulangsu Hospital, has supplied the following notes of a case of suicide, which probably terminated somewhat more slowly than was originally intended :—

NG KIN, aged 17, a bought female servant, belonging to a Chinese merchant in Amoy, attempted to commit suicide by swallowing 1 ounce of caustic alkali on the 18th April last. Almost immediately after taking this poison she was seized with a violent attack of vomiting, the vomited matter containing a good deal of blood. On the 21st April she was admitted into Kulangsu Hospital, very weak and pale, eyes sunken, and lips, tongue, palate and uvula covered with sloughs. The unsuccessful attempts which she made to swallow caused her great pain, and were followed for some time by violent retching. There was much tenderness on pressure over the abdomen, especially the region of the stomach, and also over the throat. Her skin was dry and hot; pulse 120, and very feeble; temperature, 99° F.; and expression very anxious.

Finding that the process of deglutition was quite impossible, she was given frequent nutrient enemata, amounting in the day to 50 or 60 ounces of beef-tea, eggs and milk, to which, when much pain was complained of, laudanum was added in small quantity. Sleeplessness was treated by subcutaneous injections of morphia of from $\frac{1}{4}$ to $\frac{1}{2}$ grain. During the time she was in hospital she slowly and steadily improved as regarded the circulation and general condition. The sloughs on the lips, tongue, etc., gradually separated, leaving clean ulcers, which quickly healed under a chlorate of potash mouth-wash.

The nutrient enemata, which were retained for three or four hours, were continued all the time she was in the hospital. The temperature occasionally rose to 101° , but the administration of 10 grains of sulphate of quinine in one of the enemata soon brought it down to 99° again. After the mouth and throat got well, the patient made frequent attempts at deglutition, but without success. Many unsuccessful efforts were made to pass bougies down the oesophagus, till at last, on the 2nd June, a small-sized bougie was passed through one stricture at about the level of the thyroid cartilage, but after passing 6 inches beyond this point, it stopped. Subsequent attempts at getting it lower proved fruitless. Notwithstanding all this, the patient, on the 6th June, for the first time swallowed a little congee and milk. This was followed by great pain in the stomach, which was relieved by the constant application of warm poultices. The quantity was increased every day till, on the 13th June, she swallowed a large tumblerful of beef-tea and the same quantity of milk. It took a long time to get all this down, as the patient could take only a very small quantity at a time. The rectal injections were continued. Improvement was now rapid; but, unfortunately, the girl's master, without any warning, removed her from the hospital on the 14th June. The Chinese house surgeon was sent over to Amoy to ask him why she was taken away, and to impress upon him the desirability of at once allowing her to return. His reply was that she had gone into the country, and would soon be all right. Four weeks after this, news came of her death. Particulars as to the symptoms preceding death could not be obtained. It is most probable that the cessation of nourishing enemata, and the absence of any sufficiently nourishing food that she could swallow, simply brought on death by starvation.

It is worthy of note that this patient lived for 49 days without swallowing the smallest quantity of food, either fluid or solid, and that, in spite of this, she derived so much nourishment from the enemata that she actually gained in weight.

Dr. J. F. WALES's Report on the Health of Canton for the Half-year
ended 30th September 1882.

OLD residents here consider that the summer just now terminating has been an unusually trying one, owing to the comparative absence of rain in and about Canton, and also to the very severe heat. Notwithstanding this, the health of the foreign community has been very good, and, with the exception of one case of enteric fever and another of long-standing liver disease, there has been no serious sickness here, nor have I heard of any extensive outbreak of disease among the native population in the city.

The chief diseases occurring were fevers,—the majority of which were very mild, lasting only a few days,—diarrhoea, general cases of liver derangement,—but, with one exception, none of serious importance. Cases of boils were numerous and troublesome, but relief was generally experienced from the internal administration of calcium sulphide and the local application of belladonna. During the past half-year there have been two births and one miscarriage; the latter happened during the third month of pregnancy, and was notable for the almost complete absence of hæmorrhage. Two Chinamen in foreign employ died from hydrophobia. The following are some particulars:—

On 8th August, four Chinamen were bitten by a young dog, a retriever, which had some days previously exhibited symptoms of distemper. The animal, unfortunately, was at once destroyed, so that accurate information as to its precise condition was not obtainable. One man had a portion of his finger cleanly removed, and, in consequence, lost a large quantity of blood. Another had a slight abrasion on his leg, but his clothes were not perforated. The two unfortunate men whose injuries terminated fatally had lacerated wounds on the fingers. It was not until several hours after the injuries had been received that I first saw the men, and then I at once freely applied nitric acid. Afterwards, all the wounds healed kindly under water dressing. On the morning of 22nd September I was summoned to visit one of the men, a watchman in the Customs. He had taken ill on the previous day with rigors accompanied by great prostration. When I saw him he was dying from slow asphyxia, the effect of spasm of the respiratory muscles; his mouth was filled with frothy fluid, which he frequently attempted to get rid of by spitting. He had frequent and severe convulsive seizures, and was unable to swallow anything, evincing much horror when a stimulant was offered him.

The other patient was a policeman employed by the Shamien Municipal Council. He was very apprehensive from the time he was bitten. When the wound healed he returned to his duty, but after a short time began to complain of pain in the region of the heart. The death of the other man had a very disastrous effect on him, for he quickly gave up work, took to his bed, and called in three Chinese medical men, who promptly took his case in hand, and proceeded to treat him vigorously. On 26th September I was asked to visit him; he was in bed, and every few minutes was seized with strong convulsions, which had first commenced early that morning, and which the slightest cause sufficed to excite, such as a noise or a slight current of air produced by a person moving in the room. He was perfectly sensible, and was both able and willing to take fluid into the mouth, but was altogether unable to swallow, owing to the spasm which the attempt excited. He died late the same evening from exhaustion, the result of frequent convulsions.

I was most anxious to try the effects of subcutaneous injections of curare, but was unable to do so in either case, as the patients were surrounded by excited relatives, and were

under the care of Chinese doctors. I may remark that in both cases I carefully looked for the presence of vesicles or pustules near the frænum of the tongue, which are described by Dr. MAROCHETTI as existing at an early period of the disease, but in neither case was I able to discover anything of the sort. At a later period I found that the sub-maxillary and sub-lingual glands were enlarged, and the small bursæ which normally exist in the loose areolar tissue under the tongue were very prominent.

Mr. GUNTHER, Harbour Master, has furnished the following abstract from the meteorological tables for the half-year ended 30th September 1882:—

ABSTRACT from the CUSTOMS METEOROLOGICAL TABLES from April to September 1882.

MONTH.	WINDS.							WEATHER.			BAROMETER.				THERMOMETER.			
	No. of Days N. to E.	No. of Days E. to S.	No. of Days S. to W.	No. of Days W. to N.	No. of Days Variable.	No. of Days Calm.	Average Hourly Force.	No. of Days Fog.	No. of Days Rain.	Rainfall in Inches.	DAY.		NIGHT.		DAY.		NIGHT.	
											Highest Reading and Average Highest.	Lowest Reading and Average Lowest.	Highest Reading and Average Highest.	Lowest Reading and Average Lowest.	Highest Reading and Average Highest.	Lowest Reading and Average Lowest.	Highest Reading and Average Highest.	Lowest Reading and Average Lowest.
											Inches.	Inches.	Inches.	Inches.	°	°	°	°
1882.							miles											
April	8	12	2	...	8	...	6.6	...	7	4.3	{ 30.01 30.18	29.90 29.80	29.99 30.18	29.94 29.75	77 89	69 55	72 83	69 55
May	2	14	7	...	8	...	5.9	...	18	17.4	{ 29.91 30.04	29.84 29.64	29.90 30.00	29.86 29.73	85 90	79 72	80 85	77 71
June	1	20	1	...	8	...	6.1	...	17	6.0	{ 29.83 29.91	29.78 29.60	29.82 29.91	29.81 29.70	87 91	82 77	83 87	81 75
July	2	15	8	2	4	...	6.8	...	15	11.1	{ 29.97 29.79	29.55 29.75	29.94 29.78	29.55 29.76	97 89	79 83	90 84	79 82
August	4	16	6	2	3	...	5.56	...	12	5.9	{ 29.99 29.80	29.51 29.74	29.96 29.79	29.50 29.77	95 90	78 82	92 84	77 81
September ...	12	13	5	...	...	...	5.54	...	8	3.9	{ 30.04 29.94	29.67 29.88	29.99 29.91	29.71 29.89	94 89	78 83	89 84	72 81

REMARKS.—During April, rain fell on 7 days, measuring 4.3 inches, against 20 days, measuring 11 inches, in the corresponding month of last year. During May, rain fell on 18 days, measuring 17.4 inches, against 14 days, measuring 7.3 inches, in the corresponding month of last year. During June, rain fell on 17 days, measuring 6 inches, against 12 days, measuring 5.5 inches, in the corresponding month of last year. During July, rain fell on 15 days, measuring 11.1 inches, against 18 days, measuring 8.11 inches, in the corresponding month of last year. During August, rain fell on 12 days, measuring 5.9 inches, against 19 days, measuring 9.7 inches, in the corresponding month of last year. During September, rain fell on 8 days, measuring 3.9 inches, against 8 days, measuring 2.5 inches, in the corresponding month of last year.

During April, the prevailing winds were from the S.E., the strongest on the 26th, which averaged 15 miles per hour during the 24 hours. During May, the prevailing winds were from the S.E., the strongest on the 1st, which averaged 8 miles per hour during the 24 hours. During June, the prevailing winds from the S.E., the strongest on the 1st, which averaged 9.2 miles per hour during the 24 hours. During July, the prevailing winds were from the S.E. High winds were experienced on the 17th and 18th; the weather looked bad and threatening, and fears of a typhoon were entertained; average force per hour for 24 hours, nearly 15 miles (on the 18th). During August, the prevailing winds were from the S.E., the strongest on the 12th, when the velocity averaged 11 miles per hour for 24 hours. During September, the prevailing winds were from the N.E.; the greatest force was noted on the 4th inst., when the average velocity was 10 miles per hour for 24 hours.

Dr. J. H. LOWRY'S Report on the Health of Pakhoi for the Half-year
ended 30th September 1882.

IN presenting the first Medical Report from Pakhoi, dealing with the six months just ended, it is very gratifying to be able to furnish almost a blank return of sickness so far as the foreign community are concerned. The season has been a fine one, the extremes of heat not being so great as in former years. The rains proper have been of a very limited character, lasting only during the first two weeks of August. In the interest of the public health I have during the past six months carefully weighed the advantages and disadvantages of this place as a residence. It is not exactly within the sphere of a medical report to enter into a lengthened description of a place, or give a history of its antiquity. It will, however, be necessary for me to mention a few brief details before speaking of the health of the district. The town is situated close to the sea, stretching from west to east, away from it. Forty feet above the sea level there is a fine plain extending for miles in a south-easterly and south-westerly direction. It is by no means bare or uninteresting, for here and there, studded over it, are clumps of bamboo and fir; and to the west there is a low range of hills skirting the sea. The town itself, from its filthy condition, is not only totally unfit for Europeans to live in, but is positively dangerous, as poisonous gases are being constantly evolved. On the other hand, it is questionable whether there are many places in China so suitable for residence as is the plain, which combines all the advantages of the country and of the seaside. The air is free from the abominable contaminations of the town; a pleasant breeze constantly blows, affording cool nights, and therefore refreshing sleep. There is no malaria, and those who have suffered from its effects elsewhere seem gradually to get rid of it after a residence here. The drinking water I find to be good. After coming here, I took the earliest opportunity of obtaining samples from the different wells, and subjected them to analysis, with the result that only one was unfit for drinking purposes, the others being pure, or at least free from ascertainable contamination. Sea-bathing can be indulged in with impunity in the evenings. In the present age it is hardly necessary to speak of the advantages of the sea-bath, acting as it does very powerfully on tissue metamorphosis. One of our ablest therapeutists has said,* "the sea-bath increases the process both of destruction and of construction of tissue, yet that of construction is in excess of that of destruction, with the effect of inducing not only increased vigour of the functions of the body but an actual augmentation of its weight." Walking exercise can be largely indulged in both in the early morning and evening, and those with a taste for natural history will find enough to make their walks interesting. The place is also well suited for the more energetic exercise of riding, which has also a considerable number of votaries, and which serves to keep

* RINGER, *Handbook of Therapeutics*, 9th ed., 1882, p. 49.

the abdominal organs in good working order during the hot months. To sum up briefly, we have the advantage of cool nights, a day temperature not too high (through the whole summer 90° F. has not been registered on the plain), good drinking water, sea-bathing, healthy exercise, and absence of malaria.

I have preserved the following brief notes of a case of acute dysentery. Whatever value they possess is due to the fact of the case being the first that has been carefully observed here.

P. D., set. 48, seen early in the morning, after return from a missionary tour through the country, during which he had suffered from continual looseness of bowels, and had no treatment. Found patient weak and depressed, and complaining of thirst. Temperature normal; pulse, 60, and weak; tongue flabby, dry, coated with slight fur, and indented by teeth. Great pain in both iliac fossæ, especially left; pain also along colon on pressure; no hepatic or splenic enlargement. Stools rosy, frothy, mucous, with slight traces of fæces. Ipecacuanha not being procurable at the moment, a dose of chlorodyne was administered, and a poultice of linseed and mustard applied to abdomen. 10 A.M.—Patient had been quiet, and had a little sleep; one stool. Five grains of compound ipecacuanha powder was administered every six hours, with a diet of broth and milk. Evening.—There had been five stools since morning; pulse weak; much pain on pressure in iliac regions; unable to pass water. Administered hot hip-bath, with immediate relief; much urine passed.

Second Day, 9 A.M.—15 stools, containing a good deal of blood, since 2 A.M. Distressing tormina and tenesmus; much pain on pressure in iliac fossæ. Pulse very weak; temperature normal. Ipecacuanha with bicarbonate of soda (5 grains of each) was now given every four hours. Diet—broth, and a little milk at regular intervals. 1 P.M.—Pulse a little stronger; five stools since morning visit. Linseed and mustard to abdomen. Evening.—Patient has been constantly to stool; tenesmus very great. Temperature normal; pulse weak. Enema of 30 minims of laudanum in an ounce of starch mucilage, which was retained for only a short time. 11 P.M.—20 grains of ipecacuanha were administered.

Third Day, 9 A.M.—Not been to stool so often, but no accurate record of frequency; tenesmus persisting. Temperature, 100°; pulse, 60, a little stronger. Enema of starch and opium repeated. Diet as before. 1 P.M.—Ipecacuanha and soda every four hours. Evening.—11 stools since 1 P.M. Temperature, 100°.8; pulse unchanged in character. Repeated enema, and gave 5 grains of quinine, which latter was repeated after four hours.

Fourth Day, 9 A.M.—Patient better; five stools since 1 A.M.; has slept; tongue better; pulse small; temperature, 100°; powders and nourishment continued. 1 P.M.—Two stools. Evening.—Temperature, 100°. Three stools. Enema and quinine repeated.

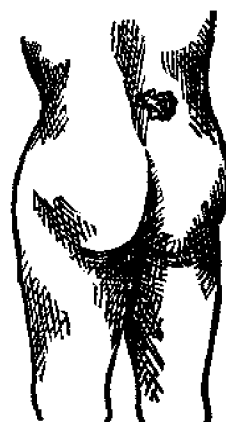
Fifth Day, 9 A.M.—Patient much improved; one stool since midnight. Temperature, 100°; pulse, 60. Evening.—Temperature, 100°.8. Gave 5 grains of quinine every four hours. Complaints of flatulence.

Sixth Day, 9 A.M.—Patient has slept; one slight stool containing fæcal matter. Temperature, 99°.8. Evening.—Temperature, 98°.8. Patient made a good recovery.

Health of the Natives.—Considering the horrible condition of the town, it is surprising that there should be any healthy natives in the place. Diseases of various kinds are rife enough, and the people are miserably unhealthy-looking, great numbers suffering from scrofula, which shows itself widely in enlarged glands of the neck, disease of the bones, and scaly skin affections. Phthisis is also not uncommon, and many cases of syphilis in its tertiary

forms have come under my notice. During the hotter months, both adults and children seemed seldom free from obstinate crops of boils both on the body and scalp. To speak of the sanitary condition of this town is almost unnecessary, as, presumably, it is not different from other Chinese towns; but according to our Western ideas of sanitary laws, it seems hardly conceivable how human beings can live among such filthy surroundings. In the streets, not the slightest attempt at cleanliness is made; animal and vegetable substances lie decomposing on every side, while the privies are open, and placed in the most frequented parts. The houses themselves are little better than the streets, and during the spring I had an opportunity of being in a large number and noting their condition. In some, an open gutter of no depth runs through the house, into which every abomination finds its way; and as these drains are seldom flooded or cleaned, the stench is vile, while the floors are saturated with excrement. In spring, when the temperature begins to rise after a dry winter, such as last winter was, a very sickly period occurs among these unfortunate people, due, doubtless, to the increased temperature acting on the soil. There being as yet no dispensary here, any attempt at systematic observation or treatment courts failure; but I feel confident that there is a large field for research, and I trust at some future time to record more than I can on this occasion. I take the following case from my note-book:—

Epitheliomatous Sore on Buttock.—LIN P'INGSHU, æt. 45; merchant; came under my notice in May. He stated that he had been suffering since July 1881, and that previous to that he had been in perfect health. Family history good; none of his relatives had ever suffered from anything similar. During April the sore became worse, and he suffered much pain, especially at night; and he has been losing flesh, and complains of weakness. Patient I found to be a fairly nourished man; not an opium-smoker. The skin to the right of the sacral region was the seat of an unhealthy-looking, irregular ulcer, in size about that of a small oyster-shell. The edges were thickened and elevated; parts of its surface were dry, and where there was discharge it was thin and watery; its peculiar situation made its classification for a time uncertain, but its subsequent course and the microscope proved it to be epithelioma. Various caustics and lotions were tried with little or no improvement. In July, when on a short visit here, Dr. PICNON of Shanghai saw the case, and concurred with me on the advisability of operative measures being taken, to which the patient has not yet consented, and he has passed back to Chinese hands. The case was more suitable for the thermo-cautère than for the knife.



The sketch in the margin gives some idea of the situation of the ulcer.

The other cases in my note-book are not of sufficient interest to merit publication. A large number of eye cases have come under my notice, many with eyes hopelessly destroyed from neglect. The sufferers willingly submit to treatment, and there is a large field for ophthalmic work.

The following plants of some pharmaceutical value are found in this district, and have been enumerated for me by Mr. G. M. H. PLAYFAIR:—*Abrus precatorius*, *Artemesia*, *Ricinus communis*, *Iolanum dalmatara*, *Pimpinella anisum*.

I herewith append my own meteorological readings for the six months ended 30th September, taken on the plain, 40 feet above sea level :—

MONTH.	THERMOMETER.						Days on which Rain fell.
	Highest by Day.	Lowest by Day.	Highest by Night.	Lowest by Night.	Average Day.	Average Night.	
	° F.	° F.	° F.	° F.	° F.	° F.	
April.....	85	50	84	49	76	70	4
May	89	71	87	72	87	77	4
June	88	79	83	76	88	74	8
July.....	89	75	86	76	86	79	12
August	89	71	82	72	83	77	15
September.....	88	76	85	73	85	75	10

REMARKS.—No violent storms or typhoons occurred.

NOTES ON AN EPIDEMIC DISEASE OBSERVED AT PAKHOI IN 1882.

By J. H. LOWRY, L.R.C.P.Ed., L.R.C.S.Ed.

DURING last spring I had an opportunity of observing an outbreak of a very fatal disease which prevailed among the natives of this district. This disease is known locally as *luen-tzŭ* (癰子); and after seeing a number of cases, I have been able to come to no other conclusion than that the disease is at least closely allied to bubonic plague. Little, I believe, had been observed of this malady in China until Mr. ROCHER, of the Customs Service, published, in his *Province chinoise du Yunnan*, the description of a disease resembling plague, which he observed while travelling in that province. The disease which Mr. ROCHER saw was undoubtedly plague,—locally called *yang-tzŭ* (痒子). He tells us that during the years 1871–73 its ravages were great through Yunnan; he also learned that the disease was imported from Burma, but there appears to be no reliable information as to the exact date of its introduction. There is, however, sufficient evidence that it has existed in the province since the Rebellion. Mr. ROCHER speaks of the mortality among the rats, they being first attacked; buffaloes, oxen, sheep, deer, pigs, and dogs also suffered,—the latter, he says, less severely. The symptoms in man are slight fever, rapidly increasing; intense thirst; then dark red swellings show themselves in the armpits, groins or neck; fever continuing to increase, patient becomes unconscious; bubo increasing till second day, after which remains stationary; when full size, about as large as a hen's or goose's egg; then consciousness returns, but still great danger, for if the swelling up to this point has been hard, and becomes soft, the fever continuing, the case is considered hopeless. If the tumour open externally, there is a chance of recovery. Some Chinese physicians have attempted to cut these tumours, but few survived the treatment; as a last resource they give large doses of musk. Such is the information Mr. ROCHER obtained in Yunnan. Subsequently, Mr. BABER, of H.B.M.'s Consular Service, in his *Notes on Route of Mr. GROSVENOR'S Mission through Western Yunnan*, speaks of plague. He says its approach is indicated by the eruption of one or more minute red pustules, generally in the armpits, but occasionally in other glandular regions. If several pustules appear, the disease is not considered so hopeless as when these are few. The sufferer is soon seized with extreme weakness, followed in a few hours by agonising aches in every part of the body; delirium shortly ensues, and in nine cases out of ten the result is fatal. It often happens that the patient suddenly, to all appearance, recovers, leaves his bed, and affirms that, beyond a slight sensation of weakness, he feels thoroughly convalescent. This is invariably a fatal sign; in about two hours the aches return, and the sufferer dies. He also refers to the mortality among rats; and poultry, pigs, goats, ponies, and oxen have died. Mr. BABER seems to have obtained most of his information from a French priest, who, being an old resident in the stricken districts, should have ample

opportunity of noting the character of the disease, and it is likely his general observations are correct. Mr. BÄHER was fortunate in meeting a native—Governor Ts'ÊN—who had been twice attacked by the disease; his second attack was milder than the first. The disease which appears in this district does not seem to spread any great distance, as I have been unable to find evidence of its existing in any other part of the Kwangtung province, nor in the neighbouring province of Kwangsi. The existence or extinction of the disease commonly called plague is of interest not only to epidemiologists, but to the members of every community. In India, I learn, it has not appeared for many years. In Sind its ravages were great from 1815 to 1819; in Narwâr, in 1836; Kumáon, 1846, and again in 1852. There it appeared as a fever of a typhus character, accompanied by external glandular tumours; it was very fatal, death taking place in three or four days. It was not contagious, but infectious; the swellings were in a state of incomplete inflammation and suppuration. In many cases death took place in 24–36 hours; there was little fever or other excitement. It was preceded or accompanied by a great mortality among rats; no other animals were affected. It occurred as high as 10,000 feet above the sea level, and with a low temperature; and again in the villages, during May, with a house temperature of 95° F. Recently notices have appeared in the *Lancet* announcing rumoured outbreaks of plague in Persia. It was said to have broken out at a village called So-uj-Bolak when there was 35° of frost; it was also rumoured to have occurred at Yazistan. Dr. ARNAUD, of Teheran, reports its having occurred last spring at Ouzoundéré, not far from the borders of Turkish Armenia, and close to the highway which leads through the defiles of Soleymanie from Turkey into Persia. Out of 524 inhabitants, 259 were attacked, and 155 had died, the duration of the malady being from one to seven days. Dr. ARNAUD calls it, in his report, bubonic plague, and says 37 of the persons who had recovered still had large buboes on their necks and under the armpits, while others were marked with indurated anthrax. The inhabitants of the village had been camped out and isolated, the whole of the houses being razed; and this energetic action had the effect of preventing further spread of the malady. In ZIEMSEN's last volume, some interesting statistics of the Hillah plague of 1876 are given. 1,826 cases were recorded, of which 277 were under 10 years; 617 at 10–20; 432 at 20–30; 292 at 30–40; 123 aged 40 to 50; and 82 at more advanced ages. 889 were males, and 937 females; 865 recovered; 961 died; 710 had groin gland suppurations or swellings; 466, axillary glands swollen; 98, the neck; and 122, glands elsewhere; 36 had carbuncles; 28 had coma; 9, convulsions; 120, petechiæ; 2, epistaxis; 6, hæmoptysis; 27, hæmatemesis; 14, bloody diarrhœa; 2, menorrhagia; 32, bilious vomiting; 16, bilious diarrhœa; and 2, jaundice. The treatment, he says, was only expectant.

The epidemic which I have observed in this district does not seem to be an old disease, as it occurred for the first time about 15 years ago, and since that has occurred at certain intervals, the last severe outbreak being in 1877. I am told, however, that a few cases occur every year, but my short residence has not yet given me an opportunity of verifying this statement.

The outbreak of last spring commenced at the end of March, and continued its ravages with lessening severity till the end of June, when it entirely disappeared; while at Lien-chou, a city distant 12 miles from this, it raged with more or less severity till August. The

winter here had been a very dry one, with many strong blows from the north. Towards the middle of March the temperature began to rise, and then, during the first 10 days of April, we had some rain and the atmosphere was laden with moisture; from this on, the temperature gradually rose, and by the end of April we had a day temperature of 85°, and a night one of 76° F. The disease proved to be most fatal and most severe from the middle of April to the middle of May. To form any definite estimate of the mortality is no easy matter, since no official record is kept; but I roughly estimate that between 400 and 500 persons died,—and the population of the town and junk community is put down at 25,000. I make my estimate from what I saw and noted at the time. During the worst weeks of the epidemic, the average deaths were 10 a day. At the commencement of the outbreak the people were almost panic-stricken; many quitted their homes, and sought refuge in the villages away from the town. I can never forget the extreme anxiety shown in the faces of friends of the sick who came to fetch me; how the crowd kept painful silence during the time I held the thermometer in position while taking the body heat, they evidently thinking it had some power of charming the sickness away.

In my Report for the April-September half-year,* I made some reference to the insanitary condition of the town; and, perhaps, before treating of the disease under review, it would be better to repeat what I before said concerning the condition of the houses in which the sick were.

To begin with, the streets are in an abominable condition of filth. Not the slightest attempt at cleanliness is tried; animal and vegetable substances lie decomposing on every side, the most noxious gases being constantly given off. The privies are open, and placed, for convenience, in the most frequented parts. The houses themselves are no improvement on the streets, and anyone visiting those of the sick will not soon forget the odour perceived on entering the place. Every house was damp and foul, and along the floors of most of them I found small open gutters, emptying themselves into the street. Into these every household abomination found its way; and as they are seldom cleaned or flooded, it is not surprising there is sickness. The floors are damp, and can be nothing but excrement sodden; under them I found small drains at no distance from the surface, some passing along and emptying into the streets, while the remainder pass under the streets and under the houses on the other side, until they eventually reach the sea. The houses and streets of this town run parallel with each other, the highest street being 20-30 feet above the sea, while the lowest is close to the water's edge; consequently, in a dry season, an enormous amount of excrementitious matter lies fermenting under the floors,—and it is only when heavy rain comes that the place gets cleansed. In nearly every house where the disease broke out, the rats had been coming out of their holes and dying on the floors. I took the opportunity of dissecting several of the rats, selecting those that had just died. Opening the chests first, I could find nothing beyond slight congestion of the lungs. In the abdomen, all the organs were congested, the intestines much distended with gas; the stomachs contained nothing but a little sand, and it appeared as if some time had elapsed since food was digested; all were in more or less the same condition. In two the liver appeared enlarged; the blood

* *Ante*, p. 28.

was dark in colour. Examination under the microscope revealed nothing. No other animals were attacked.

I select 10 from the cases that came under my notice, and in the notes appended it will be seen there is some slight difference in the symptoms of each.

Case I.—A male child, *æt.* 8, was seen on 19th April; he was lying on the floor of a dark, empty room, which had a damp, unhealthy odour. The child, I found on examination, was feverish and restless, and was very thin for a child of his years. At the angle of the left lower jaw I found a roundish swelling, about the size of an ordinary hen's egg. It was hard, and very painful on being touched. There was no fluctuation, and the swelling was movable. On removing the Chinese medicine smeared over it, I could find no discolouration beyond a slight red blush. The whole body I examined carefully, and could find no other enlargements, nor any eruption or petechiæ. Tongue furred, papillæ projecting, slight sordes on lips. Temperature in axilla, $101^{\circ}.4$ F.; pulse weak and thready, child too restless to permit me to count the pulsations. Lower extremities felt cold. 20th April.—Patient seen early; little change from previous day, beyond there being a small swelling, about the size of a marble, in front of the left ear, or, more correctly, it was a swelling of the superficial parotid lymphatics. It was hard, but did not appear very painful. Temperature, 101° ; pulse weak and thready. One motion of bowels since previous visit, just before my arrival; it was of a bright yellow colour, and very fetid odour. Patient seemed drowsy, but became very restless on being touched. He died during the afternoon.

A coolie, *æt.* 16, who came for me to see this case, took ill on the afternoon of the 20th, and died before morning. I did not see him, but he was said to have had an enlargement in his groin. I noticed he was very much excited about my going to see his master's son, and it is probable he felt sick a day before he gave up. In this house, rats had been coming out of their holes for some time, and dying on the floors almost at once.

Case II.—Another male child, *æt.* about 10 years, was seen on 19th April; he had only arrived the previous evening from Lien-chou; when he left there he was not complaining of sickness. I found patient lying in his mother's arms, in more or less prostrate condition, with heavy expression and drooping eyelids; at times he appeared to get very restless. On examination, I found in the right groin a hard enlargement, about the size of a large betel-nut. It was very painful on being touched, but there was no fluctuation. The glands on each side of it were somewhat enlarged, and those in the left groin slightly swollen. On the dorsal aspect of the right foot there was a small sore, which patient was said to have had some time. Rest of body examined; no other enlargements; no eruption. Tongue examined with difficulty, as patient kept his jaws tightly clenched; it was covered with dry fur, with papillæ projecting; sordes on lips. Temperature in axilla, 106° ; pulse, 100, fairly strong. There had been two loose motions of bowels, but they were not seen,—said to have had very bad odour; urine high coloured, very little been voided. Has vomited a little several times, and complains of thirst. Patient seen on morning of 20th; no change; seems more prostrate; gets very excited on being touched; complains of pain in the groin. Bowels opened once since last night's visit; vomited twice. Temperature in axilla, $104^{\circ}.4$. Pupils distinctly contracted. Patient died early on the morning of the 21st. Ill 48 hours.

Case III was a man, *æt.* 25, who had been sick three days previous to my seeing him. He was in bed, but not suffering from much prostration, as he was able to sit up and move about with the greatest ease. His expression was heavy, and his whole skin was moist and had a very yellow hue. In his left groin there was a small hard swelling, about the size of a large betel-nut, very painful on being touched; no fluctuation; glands on either side of swelling enlarged. Glands in right groin hard and enlarged. No other enlargements over body; no eruption. Tongue covered with brown fur; patient has been vomiting a yellow fluid; no diarrhoea; complains of headache and pain in lumbar region. Temperature in axilla, $102^{\circ}.8$; pulse, 100, weak. 22nd April.—Patient's strength seems to keep up, and he imagines

himself much better. No change in bubo, still hard and painful; no further enlargements. Bowels opened twice; complains still of lumbar pain; constant running from nose. Temperature, $103^{\circ}.8$; pulse, 70, weak. At the nape of the neck I found a rather extensive petechial ecchymosis; this was not visible at previous visit. 23rd April.—Before I saw patient, he was dead. Thinking he was better, he got up and went out, only getting a few steps from his own door, fell down, and expired, probably from syncope.

Case IV (seen on 22nd April).—A young man, about 20, took ill previous morning, and when I saw him he was in the wildest delirium, and it was with great difficulty I examined him; skin hot and dry; breath foul; has been vomiting; no diarrhoea. Temperature, $104^{\circ}.6$,—probably higher; patient too restless to retain thermometer long; pulse not counted. Whole body examined, and in the right groin I found a diffuse swelling, about the size of a hen's egg; it was softer than previous cases, but I failed to make out fluctuation; it did not appear to cause pain on being touched. Glands of left groin enlarged and hard; no other enlargements over body. 23rd April.—Saw patient early; found him quite quiet; all delirium gone, but he had a haggard, prostrate look. Temperature, $104^{\circ}.8$; pulse small. Skin dry and hot; general sallow hue. Tongue covered with dry fur; sordes on lips. Complains of headache; vomiting stopped; no diarrhoea. Bubo not greatly changed, the swelling having extended a little above Poupart's ligament, where it appeared hard. Glands of left groin unchanged. Patient died in the afternoon. In this house, on my making the usual inquiry whether anyone else was sick, I learned that a child was just recovering; he, too, had an enlargement in the groin, and eventually got well. Rats died in large numbers in this house.

Case V (23rd April).—This patient was an older man, *æt.* about 40, and had been sick four days. There was no evident prostration, as he was sitting up in the bed quite steadily. Patient stated that his sickness came on with a shivering fit, and he afterwards felt hot, and then noticed a swelling in the groin; he complains of headache and pain in the groin, and at times feels very cold; there has been no diarrhoea or vomiting. Expression heavy; skin very sallow. In the left groin there was a hard circumscribed swelling, not larger in size than a good betel-nut, very painful on being touched; no discolouration or sign of suppuration. Glands of right groin not the least enlarged; no enlargements over body; no eruption. Temperature, $101^{\circ}.2$; pulse, 60, and weak. 25th.—Patient complains of feeling hot, and swelling in groin painful. Still able to sit up without trouble, and does not appear very weak, though still wears heavy expression. Tongue covered with dry white fur. Temperature, $101^{\circ}.7$; pulse weak, difficult to count. Swelling in groin unchanged, painful on being handled; no other enlargements found. 26th.—Patient expresses himself as feeling better. Tongue cleaner. Temperature, $98^{\circ}.9$; pulse a little stronger. Swelling in groin seems smaller, giving idea that it is going to recede; not quite so painful. Patient's condition from this continued variable, the bubo almost receding; and I had hopes this case would pull through, but he eventually died, being three weeks sick.

Case VI.—A woman, *æt.* 30; seen on 26th April. Found her in bed, in a very restless condition, and with difficulty examined; at times she was delirious. She complained of great pain in the head, and had been vomiting a good deal; no diarrhoea. Tongue dry, covered with brown fur. Temperature in left axilla, $102^{\circ}.8$; pulse weak. Examining, I found in the right axilla a rather large, diffuse, red swelling, extending from the axilla on to the pectoralis muscle, very painful on being touched, but I could not make out fluctuation, though it was evident it would suppurate. No other enlargements found; no eruption. Patient had been ill some days, and died same evening, eight hours after my visit.

Case VII.—Also a young woman; seen on 16th April. Had been three days sick. I found patient very ill; skin generally sallow; puffiness under eyelids, and suffering from great prostration. Previous day had severe epistaxis; has been frequently vomiting, and had brought up several small round worms, which I unfortunately did not see; no diarrhoea. Patient complains of pains all over body, and constant pain in left groin. Tongue dry, covered with brown fur. Temperature in axilla, $104^{\circ}.2$; pulse small and weak. Every part of body carefully examined, and all I found was slightly enlarged glands in the left groin; no eruption. Patient died following morning.

Case VIII (seen on 5th May).—Patient was a young man, æt. about 20; had been sick four days; very prostrate, with all the symptoms of fever. Skin hot and dry; tongue covered with white fur; papillæ projecting. Temperature in axilla, 105° ; pulse, 68, small and weak. Patient complains of great oppression over heart. At the nape of the neck I found a large double circumscribed swelling, not unlike what is figured in some of the text-books as a compound ganglion; in the centre of each was a gland. The swelling was hard and painful on being touched. No other enlargements found over body; no eruption. Died same evening.

Case IX (seen same day).—A young man, æt. 23, had been sick three days, and had just arrived from Macao, his friends believing he brought the disease with him. Patient very drowsy, dull, and heavy when roused; skin hot and dry; tongue covered with white fur, tip very red. Has vomited once. Temperature in axilla, 106° ; pulse, 112. In the right groin there was a hard ovoid swelling, about the size of a hen's egg, very painful on being touched; no suppuration nor discolouration; other regions, no swellings. Patient was placed in a shed at the rear of the house, where he certainly had the advantage of getting more air, and was removed from the filth of the house. 6th May.—Patient very drowsy; difficult to rouse. Tongue very dry; lips and teeth covered with sordes. Temperature, $104^{\circ}.8$; pulse, 100. No change in bubo; no other enlargements discovered. Patient passed into a comatose condition, and died on 8th, no further symptoms developing.

Case X (seen on 16th May, second day of sickness).—He was a man æt. about 40, and I found him lying on the floor in an exposed place,—in fact, almost in the street. By his side was an opium tray, with all the implements, he being a confirmed opium-smoker. Patient was very drowsy, and was with difficulty roused; skin hot and dry; tongue dry and red; sordes on lips and teeth; complained much of headache; had vomited several times; no diarrhoea. Temperature in axilla, $106^{\circ}.2$; pulse, 100. In right groin there was a hard ovoid swelling, as large as a hen's egg, painful on being touched; no fluctuation. Over the dorsal aspect of the right foot there was a small sore, discharging a little pus. No other enlargements discovered. Heart carefully examined; nothing beyond usual feverish heart discovered. On making the usual inquiry, "Anyone else sick?" I found there was a female child, æt. 10, who had been sick some days, suffering from diarrhoea. She was sallow and very drowsy. Skin hot and dry; tongue covered with white fur. Could discover no enlargements over body. 19th May.—Patient in a dying condition; all drowsiness gone; clear in mind, though body very weak; thanked me for my trouble, and said it would be over soon. Temperature, $102^{\circ}.8$; pulse extremely weak. Lower extremities cold; tongue, brick red colour; lips and teeth covered with sordes. Bubo in groin unchanged; sore on foot discharging a little more. Patient died following morning. Child still looked sick, though purging considerably abated; skin hot and dry; tongue covered with white fur. Temperature in axilla, $104^{\circ}.6$. At the angles of both jaws I found slight, hard enlargements; no eruption or enlargements on trunk. She made a good recovery.

From the above cases it is seen how fatal the disease is. Out of all the cases I saw, only two recovered—the two children I have mentioned. It is necessary to say that I only saw a small proportion of the afflicted. I have tried to gather information concerning the symptoms and conditions of plague elsewhere, that what has been observed in China may be compared with them. I will group first in the order of most constant presence the symptoms in my own cases:—

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| 1. High fever. | 3. Sallow hue of skin. |
| 2. Glandular swellings or buboes, varying in size from a large betel-nut to a hen's egg; seldom more than one present; hard and painful; do not suppurate; groin most frequent site. | 4. Heavy odour from breath. |
| | 5. Pulse small and weak. |
| | 6. Bilious vomiting. |
| | 7. Most cases great prostration. |
| | 8. Tongue varied; mostly dry, white fur. |

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|---|--|
| 9. Sordes on teeth and lips. | 16. Drowsiness, passing to coma. |
| 10. Delirium. | 17. The young more frequently attacked. |
| 11. Restlessness. | 18. Incubation appears short. |
| 12. Respiration somewhat hurried. | 19. No eruptions were observed. |
| 13. Bowels loose, fetid odour; no diarrhœa. | 20. Great mortality among rats; no other animals attacked. |
| 14. Præcordial oppression. | |
| 15. Thirst not intense. | |

In Yünnan the symptoms observed were:—

1. Fever slight,—increasing.
2. Dark red swellings in groin, armpits, etc., size about hen's or goose's egg.
3. Mr. BABER was informed that eruptions of minute red pustules appear in the armpits and other glandular regions. He does not speak of buboes being present at all.
4. Rats' mortality great; other animals were attacked.

In India the symptoms were:—

1. Slight fever.
2. Glandular enlargements not essential; some cases rapidly fatal without them.
3. Suppuration commonly ends in return of health, but not always. Health recovered with recession of buboes.
4. Occasionally pulmonary hæmorrhage.
5. Disease varies in intensity.
6. Prefers women and children.
7. Extremely fatal; not amenable to treatment.
8. Muddy look; lustrous eye; white tongue; difficult articulation; præcordial oppression.

It naturally occurs to one, after seeing all these cases, to inquire what really is the disease, and what is its cause. I fear I myself have little light to throw on the subject, and no definite theories to put forward.

Beginning with the causation of the disease, I hold—1st., that macerating filth must have much to do with it; and the remarks I have already made as to the condition of the town and houses warrant my statement. 2nd., want of sufficient ventilation, considering the number of human beings that are crowded to sleep in one house; and from fear of thieves the houses are carefully shut up, even on the hottest nights. As for the specific cause, I am not at present prepared to say what the contagium is; but whatever it be, I am inclined to think it is one that requires a certain high temperature to bring it into activity. I have already spoken of the dry winter, and how the floors of the houses must have got sodden with excrementitious matter; but it was not till the temperature began to rise that the disease manifested itself, continuing its march till we had a higher temperature and rain began to fall. The degree of contagiousness of the disease seems variable, for in the houses where I was it did not appear to attack all the members in the sweeping manner we should expect. At the same time it must not be forgotten that many, from fear of contracting the disease, removed, that is, they did not sleep in the houses with the sick. Frequently some one had died before I came to the house, and others may have been taken sick after my attendance ceased. In Case II the boy arrived from a distance, took sick, and died in 48 hours; no one else had been ill in the house, and no one took sick afterwards. There were not many persons in this house, and none were

young. The inference I draw is that the boy contracted the disease elsewhere, as he became sick about eight hours after his arrival in Pakhoi. From what I have seen I believe the incubation of the disease to be short, but I regret not having any conclusive proof. Had anyone else taken ill in the house of Case II, I should have had some clue. The disease may, I think, be defined as a specific contagious fever, of short duration, accompanied by glandular swellings, and very fatal. There certainly appear slight differences between what I have observed and the descriptions given of plague elsewhere, but in the main they agree. It is evident that the cases differ; in my own there were differences, though not very material. Cases IV and VI seemed to be of a delirious form; Case IX, comatose; Cases III and V, nervous or excitable. Again, there were cases with little or no glandular affection, like Case VII. Certainly, none of my cases resemble what Mr. BABER speaks about, nor does this latter bear much resemblance to what Mr. ROCHER observed. The question arises whether plague takes different forms in different parts of Yunnan? Possibly it may; but if it were not for the fatal nature of the disease of which Mr. BABER tells us, I should almost say it was "dengue," as there certainly seem points of resemblance to that disease. Some cases of small-pox were said to be present during the epidemic here, but none came under my notice, and I cannot believe there were many. Of the diseases we are familiar with, the one under review most resembles typhus fever. Anyone going to the bedside of a patient would certainly at first think it was that disease he had to deal with.

In concluding my remarks, I have only to add that my treatment was various. In most of the cases there was little time for anything to act. I gave nitro-hydrochloric acid; quinine; large doses of aromatic spirits of ammonia; chlorate of potash, etc. To the buboes I tried poultices and lotions, but never felt justified in using the knife. For the excessive temperature, tepid sponging was ordered, and I did my utmost to urge upon the people the absolute necessity of giving plenty of nourishment; how far that was carried out is very doubtful, as it would be alien to all Chinese therapeutics. The Chinese treatment appears to have been chiefly the administration of one of their "cold medicines." I understand *shéng-ti* (生地), *mai-tung* (麥冬), *huang-lien* (黃連), and *hsüan-shén* (玄參) were given largely. A brown paste was put on the buboes, but the physicians acknowledged their treatment to be futile. Had all these unfortunate sick been at once removed to healthy ground, with free ventilation, and with systematic administration of both nourishment and medicine, it is possible I might not have to record so many deaths. I saw them in their wretched homes, unsurrounded with the care and nursing to which we are accustomed. It is possible they attempted to carry out my directions, which to them must have appeared singular, none having come much into contact with foreigners, much less foreign therapeutics. Recently I have learned that turpentine and camphor were given with some success in the two Malta plagues; neither drug was tried by me here. I much regret not having secured a postmortem, but it could hardly be expected, dealing with people who have such strange superstitions about their dead. I have to regret also not having satisfactorily examined the blood under the microscope. The dead were quickly buried, and not left exposed, as seems to be the practice in Yunnan.

Dr. ALEXANDER JAMIESON'S Report on the Health of Shanghai for the
Half-year ended 30th September 1882.

ABSTRACT of METEOROLOGICAL OBSERVATIONS taken at the Observatory of the Jesuit Mission
at Sicawei, for the Six Months ended 30th September 1882. Latitude, $31^{\circ} 14' 32''$ N.
Longitude E. of Greenwich, $121^{\circ} 29' 8''$.

DATE.	Barometer at 32° F.	THERMOMETER.		Elastic Force of Vapour estimated in Inches of Mercury.	Hu- midity, 0-100.	Ozone, 0-21.	Velocity of Wind per Hour.	Mean Direction of Wind.	Total Evaporation during Month.	Total Rainfall during Month.	REMARKS.
		Diurnal Mean Temperature in Shade.	Extreme Temperature in Shade.								
1882.	Inch.	° F.	° F.	Inch.			Miles.		Inch.	Inch.	
April....	Max... 30.428 (6)	62.8	80.8 (29)	0.658	93 (11, 26)	21	30.8 (27)				Twelve days rain. Maximum velocity of wind in 24 hours, 470.1 miles, on the 27th; minimum, 114.4, on the 5th. Thunderstorms on the 3rd, 9th, and 11th. Snow on the 4th. Magnetic storm on the 17th.
	Mean... 29.993	56.6	...	0.374	79	14	9.5	S. 73° E.	2.541	3.382	
	Min... 29.567 (27)	51.9	35.6 (4)	0.146	59 (15)	7	0.6 (6)				
	Range... 0.861	10.9	45.2	0.512	34	14	...				
May.....	Max... 30.106 (5)	73.9	85.1 (29)	0.693	89 (3)	21	38.9 (16)				Twelve days rain. Storm on the 15th. Maximum velocity of wind in 24 hours, 537.6 miles, on the 15th; minimum, 65.4 miles, on the 27th.
	Mean... 29.840	66.4	...	0.476	75	13	9.1	S. 46° E.	3.600	4.379	
	Min... 29.578 (16)	59.5	49.5 (1)	0.193	54 (5)	7	0.6 (27)				
	Range... 0.528	14.4	35.6	0.500	35	14	...				
June.....	Max... 30.023 (28)	77.3	90.5 (21)	1.037	92 (17)	18	23.1 (7)				Eighteen days rain. Thunderstorms on the 16th and 21st. First cicada on the 22nd. Maximum velocity of wind in 24 hours, 385 miles, on the 7th; minimum, 61.6, on the 26th.
	Mean... 29.747	72.5	...	0.676	84	12	7.8	S. 53° E.	1.835	9.090	
	Min... 29.483 (23)	68.5	61.2 (11)	0.484	74 (1)	0	0.5 (30)				
	Range... 0.540	8.8	29.3	0.553	18	18	...				
July.....	Max... 29.957 (10)	82.9	93.9 (18)	1.073	93 (2)	21	24.2 (14)				Eleven days rain. Diluvian rain on the 8th, between noon and 4 P.M., 4.05 inches. Maximum velocity of wind in 24 hours, 432.5 miles, on the 25th; minimum, 87.3 miles, on the 3rd. Thunderstorms on the 11th, 19th, and 24th.
	Mean... 29.727	78.3	...	0.831	86	9	9.8	S. 45° E.	2.571	10.810	
	Min... 29.456 (31)	74.5	65.1 (8)	0.583	79 (7)	0	0.6 (21)				
	Range... 0.501	8.4	28.8	0.490	14	21	...				
Aug.....	Max... 29.985 (31)	83.1	87.6 (2)	1.059	96 (16)	18	25.5 (17)				Sixteen days rain. Typhoon near Shanghai, eastward, on the 3rd and 4th. On the 5th, at 3.35 P.M., earthquake. Maximum velocity of wind in 24 hours, 435 miles, on the 17th; minimum, 65.2 miles, on the 25th. Thunderstorms on the 15th and 27th.
	Mean... 29.725	78.1	...	0.826	86	8	8.2	N. 59° E.	2.525	8.450	
	Min... 29.271 (3)	73.8	65.8 (6)	0.575	76 (6)	0	0.0 (7)				
	Range... 0.714	9.3	21.8	0.484	20	18	...				
Sept.....	Max... 30.194 (27)	79.1	91.0 (5)	1.049	94 (7)	16	21.1 (13)				Sixteen days rain. Maximum velocity of wind in 24 hours, 315.4 miles, on the 12th; minimum, 64, on the 26th. Thunderstorms on the 1st and 7th. On the 14th, magnetic storm.
	Mean... 29.922	74.3	...	0.715	84	10	6.5	N. 64° E.	2.200	3.591	
	Min... 29.640 (13)	70.5	61.5 (27)	0.484	73 (26)	4	0.6 (1, 19)				
	Range... ...	8.6	29.5	0.565	21	12	...				

NOTE.—The figures in parentheses indicate the days on which the observations to which they are appended were made. Under the heading "Humidity" the maxima and minima registered are the diurnal mean maxima and minima; in other words, they correspond to the two days of the month whereon the humidity was respectively greatest and least during the 24 hours.

I am indebted to the Rev. MARC DECHEVRENS, S.J., for the above summary of a portion of the observations made at Sicawei.

The summer season was cold, wet, and marked by frequently recurring atmospheric disturbances. Only once did the temperature reach a characteristic summer level, namely, on the 18th July, when the mercury touched 94° F.

The following table is drawn up from the English and French municipal burial registers, and from the books of the municipal sexton, which were kindly placed at my disposal:—

BURIAL RETURN of FOREIGNERS for the Half-year ended 30th September 1882.*

CAUSE OF DEATH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	TOTAL.
Small-pox		f 1† 1	1	...	1§	...	4
Scarlatina	f 2||	...	...	...	...	...	2
Enteric fever	1||	...	...	1	...	...	2
Pernicious fever .....	...	...	f 1§	...	...	...	1
Cholera .....	...	...	...	...	1 1|| 1§||	2 f 1 5||	11
Convulsions .....	...	...	...	1§	...	...	1
Menigitis .....	...	f 1†	...	...	...	...	1
Chronic alcoholism	1 1||	...	...	...	...	...	2
Cerebral effusion .....	...	...	...	f 1	...	1	2
Apoplexy .....	...	...	...	...	1§	...	1
Phthisis	1||	...	1§	...	1§||	f 1†	4
Atelectasis pulmonum .....	...	f 1†	...	...	...	...	1
Pneumonia .....	...	f 1†	...	...	...	...	1
Capillary bronchitis .....	...	...	f 1†	...	...	...	1
Cholera infantum .....	...	...	f 1†	...	...	...	1
Diarrhoea .....	...	...	...	...	1†	...	1
Gastro-enteritis .....	...	...	...	...	1†	...	1
Suppurative peritonitis .....	...	1	...	...	...	...	1
Disease of liver and kidneys .....	...	...	...	...	...	1||	1
Accident (fall from aloft) .....	...	1||	...	...	...	...	1
Drowned	3||	2||	...	...	1	1||	7
TOTAL	9	9	5	3	9	12	47

* Not including deaths among the Catholic religious bodies; exclusive also of Eurasians.

† Natives of Macao (5).

‡ Young children (11).

§ Natives of Manila (7).

|| Not resident (21).

A cursory glance at the above table with its appended notes shows that the mortality was extremely low among resident adult foreigners of European birth. Removing 8 deaths due to accident, 39 remain attributable to disease. Of these, 11 occurred among young children, of whom the majority (7) were natives of Macao or Manila. A full analysis of the figures is given in the following tabular statements:—

CAUSES OF DEATH FROM DISEASE AMONG RESIDENT EUROPEAN ADULTS, April to September 1882.

Small-pox 1	Chronic alcoholism 1
Enteric fever. 1	Cerebral effusion. 2 (1 female).
Cholera 4 (1 female).	Suppurative peritonitis 1

8 males and 2 females (as against 16 males and 10 females during the corresponding period of last year).

CAUSES OF DEATH FROM DISEASE AMONG NON-RESIDENT EUROPEAN ADULTS.

Scarlatina 2 (females).	Chronic alcoholism 1
Enteric fever. 1	Phthisis 1
Cholera 7	Disease of liver and kidneys 1

11 males and 2 females.

CAUSES OF DEATH FROM DISEASE among the CHILDREN of EUROPEANS.

Gastro-enteritis 1	Cholera infantum 1 (female).
Capillary bronchitis 1 (female).	Meningitis 1 (").
1 male and 3 females.	

CAUSES OF DEATH FROM DISEASE among NON-EUROPEAN ADULT FOREIGNERS.

Apoplexy 1 (Manila).	Phthisis 2 (Manila).
Cholera 1 (").	" 1 female (Macao).
4 males, of whom 2 were non-resident, and 1 female.	

CAUSES OF DEATH FROM DISEASE among the CHILDREN of NON-EUROPEAN FOREIGNERS.

Convulsions 1 (Manila).	Pneumonia 1 female (Macao).
Small-pox 1 (").	Diarrhoea 1 (Macao).
" 1 female (Macao).	Pernicious fever 1 female (Manila).
Atelectasis pulmonum 1 (").	
3 males and 4 females.	

It should be remarked that at least three of the deaths occurring among non-residents have been placed under that heading on purely technical grounds. In each case the deceased had taken up residence in Shanghai, but was overtaken by the illness which proved fatal, within six months of arrival. From April 1881 until May 1882 no death was reported from small-pox; and of the three which occurred respectively in May, June and August 1882, two (Macao and Manila infants) may probably be attributed to neglect of vaccination. In March 1882 a Portuguese (European) lady died of pneumonia, secondary to scarlet fever, which latter declared itself exactly a week after a natural labour. Six children in the house took scarlet fever, all exhibiting symptoms of more or less severity, but all recovered. The most minute inquiry failed to throw any light on the source of the contagion. While these children were ill, but without any communication that could be traced between the families, two young girls, sisters, were attacked by scarlet fever.

In both it ran a severe course, but convalescence was fully established, when one of the girls was found dead in bed, whither she had returned after some slight exertion in her room. A postmortem held next day by Dr. PICHON and myself revealed old and extensive heart mischief, which, curiously enough, was more pronounced on the right side than on the left. Death was due to sudden failure of the heart's action, the right auricle, ventricle and pulmonary artery being gorged with fluid blood, and both branches of the latter containing in addition a quantity of loose coagulum. The second sister, an excessively delicate girl, died 10 days later of acute miliary tuberculosis.

These appear to have been the only fatal cases, and in each death was due to complications.

Although what follows belongs properly to the Report presently to be published on the succeeding half-year, it may, for reasons that will appear farther on, fitly find a place here.

On the evening of the 18th November one of the Portuguese children above referred to, who in March had recovered from scarlet fever, and who in the meanwhile had been placed as a boarder at the Institution St. Joseph, became feverish, and complained of sore throat. She was a girl aged seven. Called to see her after dark, I could find nothing suspicious about the fauces, but prostration was so intense, altogether out of proportion to the degree of fever (101° F.) and to the local condition,

that I advised her immediate isolation. This was effectually done, for it so happened that a number of rooms recently vacated by their occupants, who had moved into newly erected buildings at some distance from the old, were available for any purpose of the kind. Two French sisters were specially detailed to look after the child, and intercourse between them and the rest of the community was strictly interdicted. The necessary cooking and washing were done on the spot by these sisters. Next day there was a slight pellicle on the left tonsil. The constitutional symptoms were extremely severe, and treatment was chiefly directed to sustaining strength, a wash of solution of boracic acid, frequently applied, being the only local application used. On the 20th, soup and wine were freely taken, without, however, any appreciable effect. The membrane was confined to a small area on each tonsil. Spray of lactic acid was applied once, but produced dyspnoea, and was abandoned. The boracic acid wash was, on the contrary, well borne, and appeared to soothe. Late in the evening a violent attack of dyspnoea occurred, and persisted for about half an hour, when I performed tracheotomy, with the result of giving immediate relief. The child, however, speedily sank and died.

Inquiries were immediately set on foot with a view to find the origin of contagion in this case. They were long fruitless; but some weeks afterwards it was discovered that at this time a Chinese woman with a sick child had been lodged in the servants' quarters, which are unusually extensive, attached to the house occupied by the little girl's father. It came out that the native child had had fever and sore throat, with great difficulty in swallowing, and that it had been kept at the house up to a few hours before its death. The little girl had visited her home on the 16th, about 50 hours before she showed symptoms. Why the other children were not attacked is one of those questions which the selective action of contagion continually suggests. One child, an elder sister, did in fact suffer for three or four days from an attack of ordinary sore throat, which, however, led to nothing.

Parenthetically I would remark that unless foreign householders make a practice of frequently inspecting their servants' offices, they have no security whatever against the introduction of the most dangerous forms of communicable disease within their premises. Their male and female servants will take no precautions whatever, and children are as likely as *not* to be brought into immediate contact with diseases against which parents flatter themselves that they are protected by the care which is lavished upon keeping them far from known sources of contagion. An unexpected visit to one's servants' quarters reveals many astonishing facts. No doubt it is only exceptionally that disease and death are found sheltered under one's own roof. But the incredible dirt in which the most respectable native servants live, the vermin which they cherish in their rooms, and the overcrowding of quarters calculated on no very liberal scale for the number of persons actually employed, are revealed with a clearness startling to anybody who for the first time undertakes such an exploration as I recommend. In this connexion, too, it seems advisable to remind the community that sooner or later the Municipal Council will have to deal with the question of overcrowding in native houses. The overcrowding of the settlements by Chinese, and the rapid disappearance of every patch of open ground are obvious to everybody, and are serious menaces to public health. That native houses should be set as close together as they can be packed is bad enough, and is of itself sufficient to bring many evils in its train, more especially when the abominably filthy habits of the Chinese are considered. But far worse than this is the dense overcrowding of individual houses, coupled with the absence of any provision for the notification of infectious disease or of the

occurrence of death. There is no reason why a dead body should not remain for days or weeks in a house filled to overflowing with people still living, and closely surrounded by other houses equally tightly packed, while there is no lack of evidence that persons stricken by diseases of all kinds, in which according to European ideas isolation is essential, run through the whole course of their maladies in rooms crowded with men, women and children, amongst whom contagion is sown and by whom it is of course spread. It is not easy to see how the Municipal Council can begin to interfere, the difficulties in the way of such action appearing, I confess, insurmountable. It is highly probable, however, that diseases which have hitherto appeared only at rare intervals among foreigners, such as diphtheria and typhus fever, will soon become endemic among the native residents in the settlements; and it is reasonable to suppose that the frequency of their occurrence among foreigners will simultaneously increase.* With small-pox we are already familiar. Its increase is a matter of course.

In December last I was called by a Cantonese girl to see a woman and child supposed to be dying in a native house in Honan Road. The room into which I was introduced was about 11 feet high, 11 feet long and 9 feet wide. It was lighted and ventilated only by the door which led into a narrow passage. In it was a stove which threw out an overpowering heat, a kerosene lamp, a four-post bedstead, and a native bed on trestles. In the larger bed was a little boy dying of diphtheria, and a woman engaged in tending him. A second woman slept in the bed at night, as I was informed. The child died about an hour after I left. On the trestle bed was a young woman dying of typhoid fever, and it was evident enough that she had no control over her evacuations. She died during the following night. Her bed was shared by a friend who it was said looked after her, but who did not happen to be present during my visit. When I entered the room an old woman was engaged exorcising the two patients, and I was told that her business was to go from house to house when sickness was present, and drive devils away. There appeared to be a constant stream of visitors, at least five women having come into the room during the few minutes of my stay.

There is hardly a circumstance mentioned in this last paragraph which is not pregnant with suggestions of danger to public health. I have no reason to believe that the case which thus came under my notice was exceptional. Indeed, considering all the conditions, it would be impossible that it should be exceptional.

Bearing all this in mind, it is hardly worth while to ask how any given instance of contagious disease occurs in a foreign patient. After the death of the little child at the Institution St. Joseph, the most minute precautions in the way of disinfection were taken. The floor, walls and ceiling of the room she occupied were scoured with a 5 per cent. solution of carbolic acid, and were then limewashed; the bed was destroyed; the iron bedstead taken to pieces and scoured with carbolic soap and boiling water. The clothes worn by the attendants were boiled within the building in which the patient had been kept, and the attendants purified and disinfected themselves with the most sedulous care. I believed and still believe that the infection was stamped out.

Thirty-six days (26th December) after the child's death a nun complained of sore throat and dysphagia, which she attributed to cold caught three days before while walking with some of the pupils in the country. As she had suffered from a delicate throat since her early youth, she paid little attention to her symptoms until difficulty in swallowing compelled her to seek advice. When seen, early in the

* There is no hospital accommodation in Shanghai available in such an event.

afternoon, the fauces were deeply injected, the tonsils much swollen, and the uvula oedematous. There was great difficulty, apparently of a paralytic character, in swallowing. A spoonful of milk would go down with a sort of jerk, and after a minute or so would be rejected unchanged and without any straining, the patient having spoken in the interval. The voice was nasal. Examined in a strong light, there was no sign of membrane on the tonsils or in the pharynx. The axillary temperature was 100° F. What was most striking was the intense exhaustion, and this suggesting mischief to come, the patient was isolated, and the same precautions taken which had been before adopted. Next day there was a distinct diphtheritic patch on the left tonsil, and in the afternoon gangrene had invaded that tonsil and the adjacent portion of the soft palate. Deglutition was extremely difficult, yet a considerable amount of wine and concentrated soup was swallowed and retained. Feeding was almost continuous through this day. The pharynx was frequently swabbed with a saturated solution of borax in glycerine diluted with an equal bulk of hot water. Each swab was burned immediately on being used. Steam, through which creosote vapour was diffused, was inhaled as frequently as possible, but it was badly borne, and was difficult of administration in the recumbent position. There was comparatively little interference with breathing or speaking. The condition remained almost unchanged next day (28th), except that, while there was no dyspnoea, the voice was almost extinguished. Gangrene had advanced slowly to the middle of the soft palate, where it seemed to be arrested. The slough on the tonsil was beginning to separate, leaving a bleeding surface, from which small quantities of blood were occasionally coughed up. On the morning of the 29th, the temperature was normal, vomiting had occurred three times, detaching several pieces of slough which had separated without hæmorrhage. Nourishment and wine were taken in increased quantity. Externally the neck was swollen and tender, pain radiating from the tonsillar region to the clavicles. As there was some nausea, the patient was allowed to suck ice, which checked it. About noon, without any apparent change in the general condition, breathing began to be obstructed, but dyspnoea did not become marked until 3 p.m., when I saw her. I immediately returned home to fetch a tracheotomy tube, but during my brief absence she asked to be allowed to change her position. She turned slowly off her couch, took one step to an armchair, and sat down dead.

From first to last there had been no albuminuria.* Sleep was at first obtained in snatches by means of chloral, but as this drug when largely diluted took a very long time to administer, and when not so diluted was painful to the throat, it was replaced by small doses of bromide of potassium with tincture of digitalis, which acted sufficiently well.

This lady had been, during the days immediately preceding Christmas, in constant contact with children passing to and fro between the Providence School (which is isolated from the Institution School for paying pupils) and their homes. In many instances these homes were Chinese houses, and I at first thought it possible that she might thus have picked up the contagion. Later on, however, I discovered a fact which had been unaccountably forgotten at the moment. On the 18th December this nun, with another who was in excellent health and free from any past or actual predisposition to throat trouble, visited a little girl living in Hongkew who was at the time suffering from diphtheria, and who died next day. The nuns were ignorant of the nature of the disease, and both kissed the child on parting from her. The second nun escaped.

The same processes of disinfection were gone through as after the first fatal case. Those boarders in the Providence School who had been allowed to go out were on their return scrubbed in hot baths with carbolic acid soap, while every particle of their clothing was changed before they were allowed to take their places in the school and dormitory.

* In all the cases search was made twice daily, but no trace of albumen was ever found.

In spite, however, of all this, a Eurasian child, who had spent Christmas Day and the day following with her mother in a Chinese house in Hongkew, showed suspicious symptoms on the 30th December. She was immediately isolated, and the same procedure which had been before followed was rigorously adopted. The case proved to be one of average severity as far as the local condition was concerned, but the general condition was never alarming, and recovery was rapid.

Here ended my experience of diphtheria within the walls of the convent, and indeed my entire experience for the year, for I had no cases in private. I am satisfied that each of the three cases arose from a separate source of contagion; and that the escape of the French Convent and girls' schools (containing on an average about 100 persons of all ages) from an epidemic which must have proved disastrous was solely due to the conscientious manner in which, at vast inconvenience and at no inconsiderable expense, the minutest precautions were taken to prevent the spread of the disease. No one who does not know something about the organisation of a vastly overworked religious community can realise the extreme difficulty of detaching a staff, completely isolated from the rest of the society, for the purpose of watching one individual. Moreover, going to work as the necessities of the case demanded, it was found that much furniture, clothing, etc., had to be ruthlessly destroyed or spoiled. I do not know that the fact that this was cheerfully done reflects credit upon anybody, seeing that there was so much at stake, but at all events it was done, and it is thus explained that there was no communication of disease within the convent itself.

This history of diphtheria as observed by me in 1882 is, as I have already said, an anticipation of the Report on the winter season; but the various incidents just narrated link themselves so naturally with one another, and with the details of the cases of scarlet fever from which I started, that there is an obvious reason for placing it where it is.

The case of suppurative peritonitis fatal in May is in many respects interesting, but chiefly on account of the impossibility of assigning any cause for the affection.

J. T., a lightkeeper, about 45 years old, was brought to Shanghai during the night of the 5th-6th May, and was seen at 4 A.M. on the 6th. He had been in good health up to the 1st May, but since that date he had been unable to obtain an action of the bowels, and since the 3rd he had been in violent and continual pain. Beyond this he had no history to give. Several doses of oil and laudanum had been administered, some of which he had vomited. Every now and then he suffered a subjective sensation of intense cold, but without rigor. Hot milk was given as soon as he arrived, but was at once vomited. Surface of body cold and moist; pulse, 128, extremely small; temperature under tongue, 97°. Abdomen tensely distended and very sensitive. The course of the colon could be followed by the eye. Little information was obtainable from percussion, as the lightest stroke was extremely painful. There was no hernia at any of the openings. Urine was passed freely. Nothing could be discovered by the finger in the rectum. The diagnosis was paralysis of the muscular coat of the intestines from peritonitis, the cause of the peritonitis being probably the rupture of an abscess in the neighbourhood of the cæcum. Hot poultices were constantly applied to the abdomen over a plaster of opium, mercury and belladonna. The patient was kept slightly under the influence of morphia administered hypodermically; ice was freely given, and for nourishment frozen milk. One grain of calomel was laid on the tongue every hour for 10 hours. Next day (7th May) there had been two small watery stools, with discharge of a considerable quantity of wind. Vomiting quickly followed the ingestion of any nourishment, but a certain amount was retained, as urine was secreted in large quantity. The abdomen was less sensitive. In the evening there had been no stool, but a few ounces of putrid fluid had drained away. Pulse, 138, thread like;

temperature, $98^{\circ}.6$. As the chief source of suffering appeared to be the distension, an O'Bairne's tube was passed for 10 inches into the rectum, without encountering any obstacle, but gave exit to only a very small quantity of fetid gas. At night the pulse rate rose to 168.

8th May.—Morning temperature, 98° ; pulse, 130. No stool. Urine passed in small quantity; not albuminous. Little change in appearance of abdomen, except that the small intestines are now clearly defined through the abdominal wall. There is much distress from distension, yet the abdomen is almost indolent to percussion. Deeply-seated dullness can now be made out, extending from the right groin half way to the umbilicus, and bounded by a horizontal line drawn through the anterior superior spine of the ilium. Five capillary punctures were made, but only from one point (a little below and to the left of the umbilicus) did any gas issue. Puncture of the distended colon gave exit to nothing. Vomiting of yellowish green fluid containing much bile was almost incessant. At 5 P.M. the symptoms were unchanged; and death occurred at 6.30, the patient retaining his senses to the last. The application of opium, mercury, and belladonna to the abdomen, together with hot poultices, was continued throughout.

Extract from Report of Postmortem held 16 Hours after Death.—A large quantity of turbid fluid had escaped from the mouth. Rigor mortis strongly marked in all the muscles. Faint cadaveric odour. Eyelids closed; jaws closed; abdomen tense, greatly distended, tympanitic everywhere; anus closed.

Abdomen.—Incision from tip of xiphoid cartilage to pubes passed through a layer of fat $1\frac{1}{2}$ inch thick. Recti muscles, red, firm, and of natural appearance. Two oblique incisions following lower costal border from the xiphoid cartilage into the lumbar regions exposed the contents of the abdomen. Colon and liver not at first visible, being hidden by the upper 10 feet of the small intestine largely distended and bulging forwards and upwards. On lifting this portion the lower 10 or 12 feet of the small intestine was found moderately distended, deeply injected, covered with pus and with flakes of lymph of varying size, some attached, some free in the peritoneal cavity, and measuring 3×1 inches. The cæcum was firmly adherent to the abdominal wall and was bathed in pus, but there had been no abscess formation; appendix empty, not perforated. With the exception of the upper 10 feet, all the coils of small intestine were matted together by old and recent lymph. The colon throughout its whole extent was deeply inflamed, distended and covered more or less completely with pus. Its mucous membrane, as well as that of the lower half of the small intestine, was dark slate colour, deeply inflamed but not gangrenous. It contained a number of small pellets of faecal matter, none of which filled the calibre of the bowel. The small intestine was perfectly empty. Its upper 10 feet and also the stomach were healthy, except for their great distension. The quantity of fat deposited in the mesentery was very remarkable. The parietal peritoneum was almost healthy in appearance down to the level of the umbilicus; below this line it was deeply injected. The pelvis was full of pus, which apparently had gravitated into it from the surface of the intestines. The liver weighed 60 ounces, and was apparently healthy. Gall bladder distended with viscid bile. Spleen very small ($3 \times 2 \times \frac{1}{2}$ inches), shrivelled on the surface, and its pulp reduced to an evil swelling putrilage; but there had been no rupture of a splenic abscess. Kidneys natural. Bladder healthy, containing about 6 fluid ounces of urine.

In another part of the report it is noted "No tubercle in the lungs . . . no deposit on any of the valves of the heart or great vessels."

II.—SPECIAL SERIES.

- No. 1.**—NATIVE OPIUM..... Published 1864.
" **2.**—MEDICAL REPORTS First Issue, 1871.
" **3.**—SILK..... Published 1881.
" **4.**—OPIUM ,, 1881.
" **5.**—NOTICES TO MARINERS, 1862-82 First Issue, 1883.
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